

**National Highway Traffic Safety Administration Technical  
Assistance Program Statewide EMS Re-Assessment**

**Attachment 21**

**Iowa Paramedic & EMT Labor Market Analysis**



# IOWA PARAMEDIC & EMT LABOR MARKET ANALYSIS



IN PARTNERSHIP WITH:



IOWA  
**WORKFORCE**  
DEVELOPMENT

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### Introduction

The Iowa Paramedic & EMT Labor Market Analysis report is designed to provide data relevant to the supply of and demand for emergency medical technicians (EMTs) and paramedics in Iowa. The opening sections describe the demand for these occupations through the number of job vacancies posted on the IowaJobs bank, comparison of Iowa's hourly wages to the rest of the United States, regional wage levels within Iowa and projected future growth of EMT and paramedic employment in Iowa. The data for these analyses are provided by Iowa Workforce Development and the U.S. Bureau of Labor Statistics.

The remainder of the report is devoted to the state's supply of emergency medical services (EMS) personnel, and uses Iowa Department of Public Health certification data, along with American Community Survey (ACS) population estimates for per-capita calculations. The geographical distribution of certified personnel, age profiles, and change in new certifications over time are all analyzed both overall and by type of certification. The groups of certifications analyzed in this report are:

- **Emergency Medical Responder (EMR)** - Delivers on-scene emergency care prior to the arrival of a transporting service, though they may also function as part of a transport service. The skills of the EMR are non-invasive and include the use of oxygen, oropharyngeal airways, automated external defibrillators, bleeding control and manual stabilization.
- **Emergency Medical Technician (EMT-B/EMT)** - Provides basic emergency care. EMT care is the minimum for transporting services. EMTs perform the skills of the EMR and use basic equipment commonly carried by ambulances including automated transport ventilators, over-the-counter medications and use of the pneumatic anti-shock garment. EMTs also assist patients in taking prescription medications.
- **Emergency Medical Technician - Intermediate (EMT-I)** - EMT-Intermediates have additional training above the EMT level in patient assessment and are able to initiate non-medicated intravenous fluids. This level is being transitioned to the AEMT level and will be eliminated on April 1, 2016.
- **Advanced Emergency Medical Technician (AEMT)** - The skills of the AEMT include those of the EMT with additional advanced skills. The advanced skills of the AEMT are high impact, lower risk procedures such as insertion of airways other than those intended to be placed in the trachea, initiation of intravenous access, and administration of a limited set of medications.
- **Emergency Medical Technician - Paramedic (EMT-P)** - The EMT-P has additional skills above the EMT-I level and is based on the National EMT-Intermediate curriculum. Providers at this level are transitioning to the Paramedic level and the level will be eliminated on April 1, 2018.
- **Paramedic Specialist / Paramedic (PS/Paramedic)** - Paramedics are the highest level of out-of-hospital care and care is determined based on advanced assessment and the formulation of a field impression. The Paramedic has the largest set of skills, including invasive skills and pharmacological interventions.

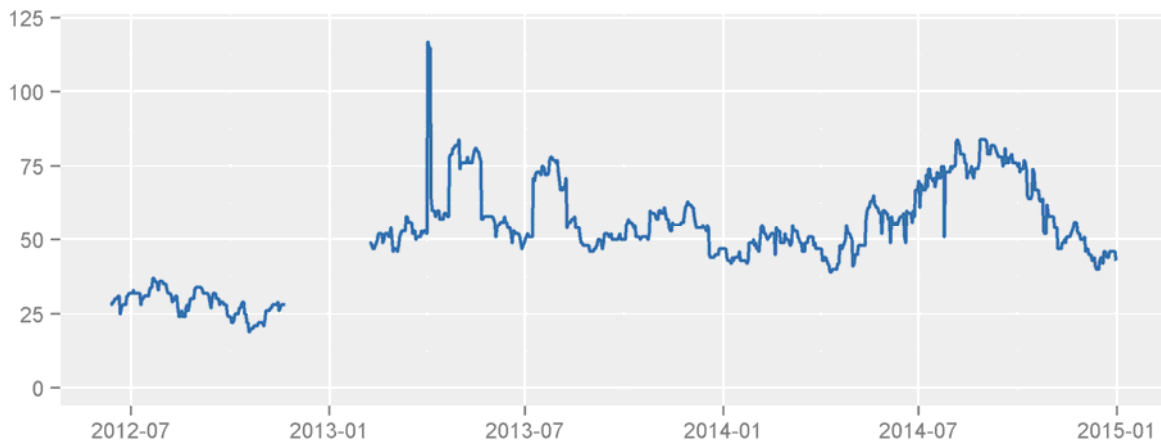
This report was written by Iowa Workforce Development (IWD) in cooperation with the Iowa Department of Public Health (IDPH).

## Job Vacancies

Iowa Workforce Development's IowaJobs bank ([www.iowajobs.org](http://www.iowajobs.org)) contains job postings from all around the state and can be analyzed for general trends in occupational demand. The figures below contain data from job postings on iowajobs.org that have been classified under the Standard Occupational Classification (SOC) emergency medical technicians and paramedics (29-2041) – this classification covers all EMS certifications. Job openings not listed in the IowaJobs job bank are not reflected in this data. This data generally only covers paid positions (not volunteer).

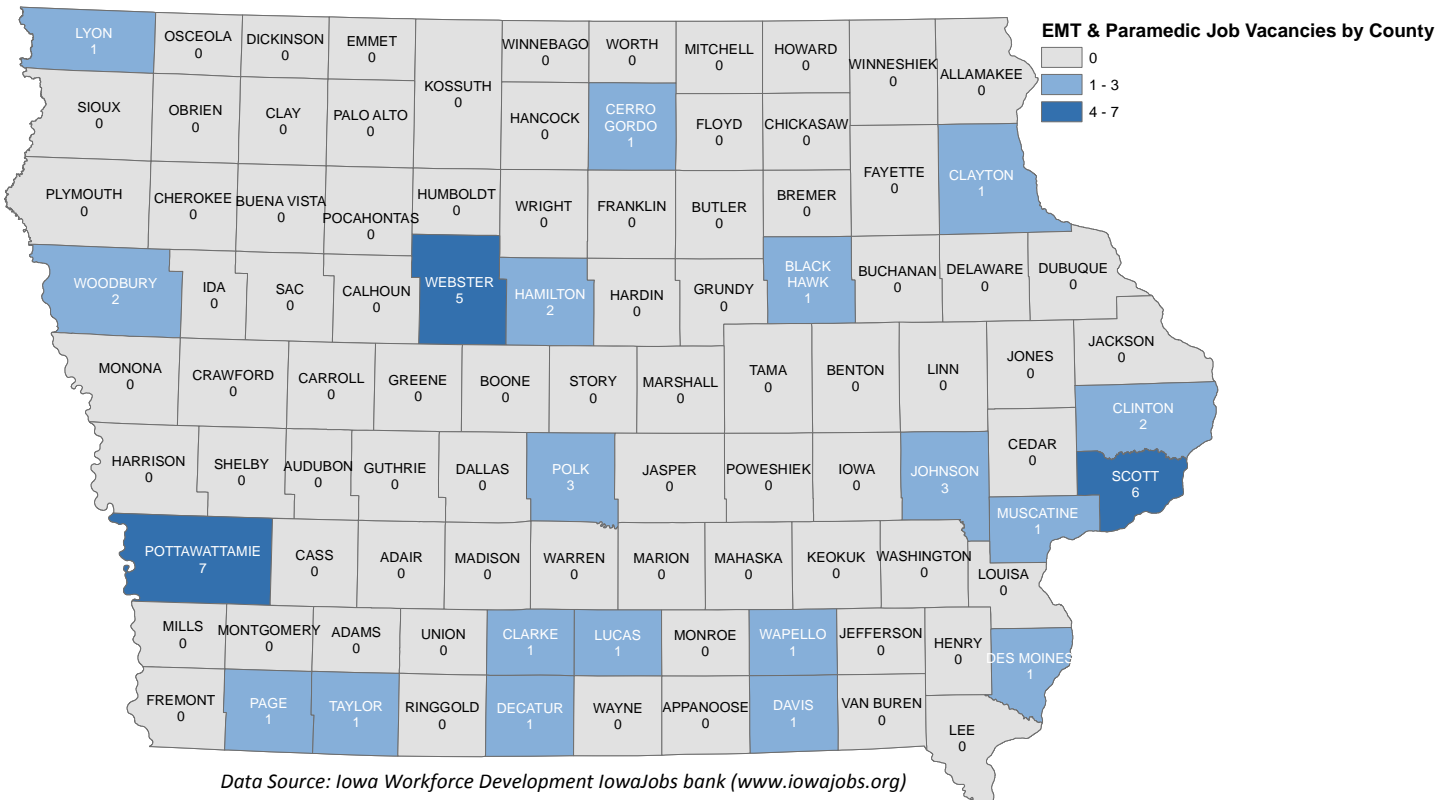
The line chart shows the daily count of active EMT and paramedic job vacancies posted on IowaJobs. Since 2013, the number of posted openings have generally fluctuated between 40 and 85 at any given time. The map at the bottom of the page shows the geographic locations of active job postings on IowaJobs on December 31, 2014, the last day that was analyzed. The highest concentrations of job vacancies were in the Council Bluffs/Omaha, Davenport and Fort Dodge areas.

**Daily Count of EMT & Paramedic Job Vacancies Posted on iowajobs.org**



Data missing between November 22, 2012 and February 6, 2013

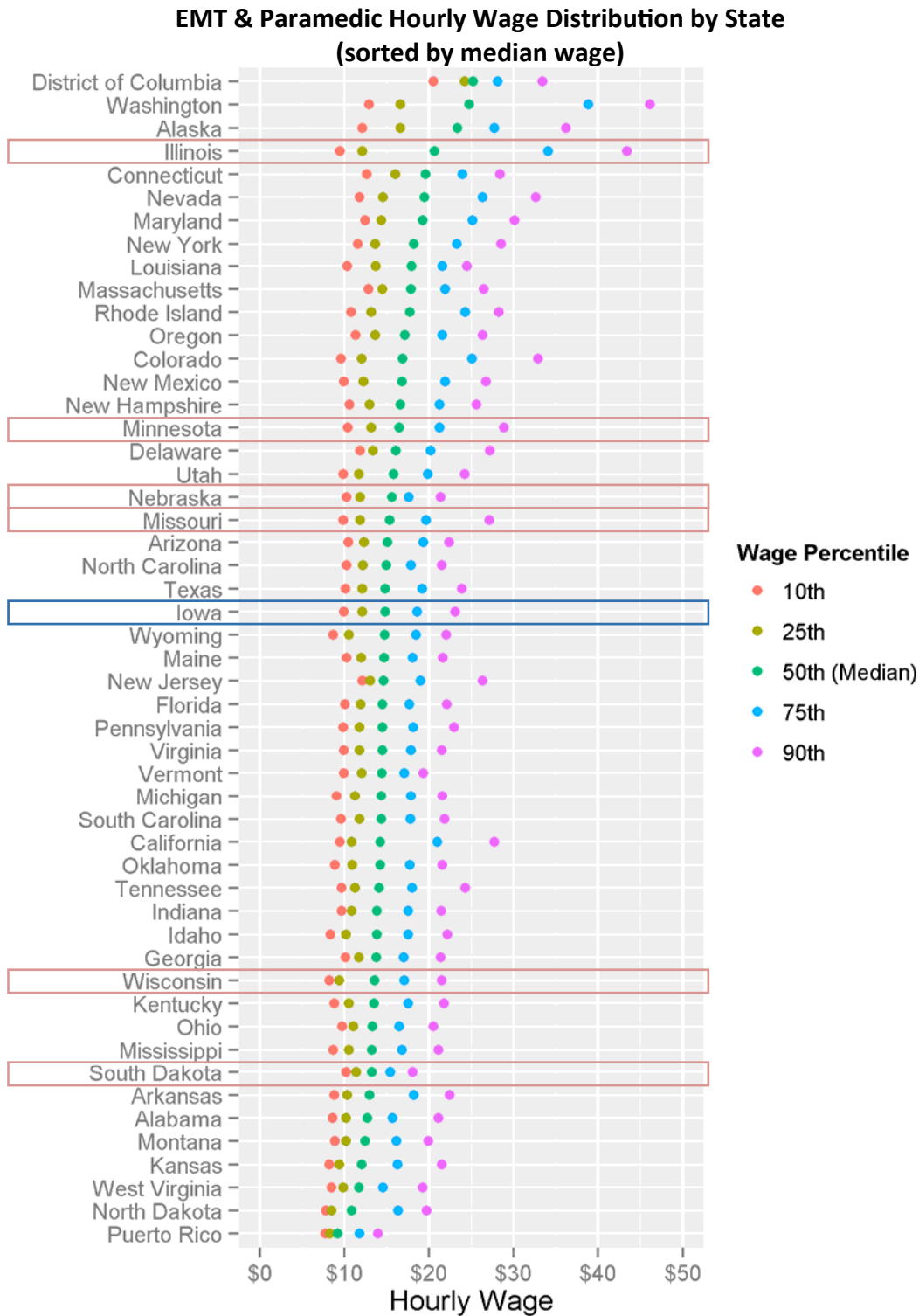
**EMT & Paramedic Job Vacancies by County**  
Data Reflects Job Openings on December 31, 2014



Data Source: Iowa Workforce Development IowaJobs bank ([www.iowajobs.org](http://www.iowajobs.org))

## Wages

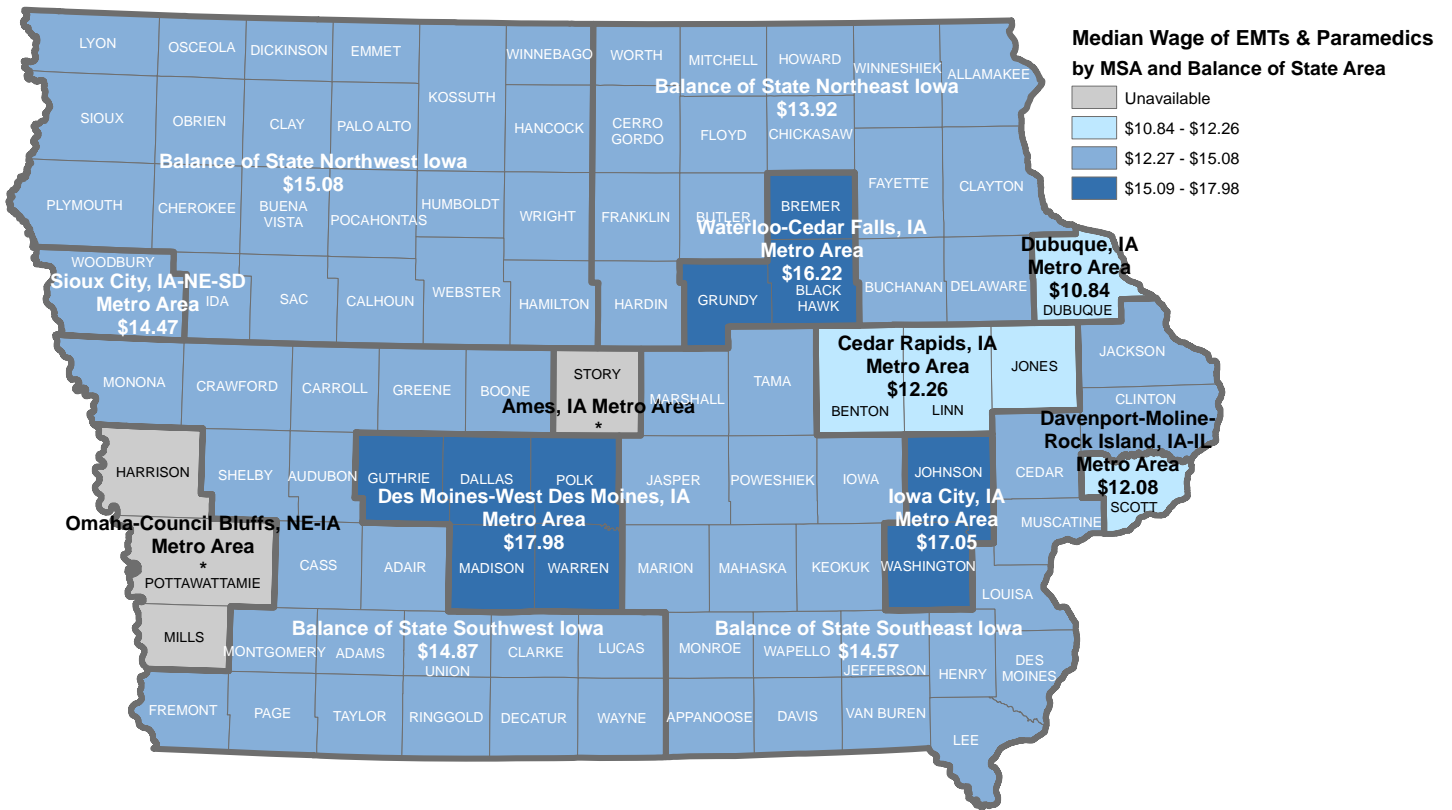
On this page and the next two are hourly wage estimates for occupations classified under the emergency medical technicians and paramedics SOC (29-2041) from Occupational Employment Statistics (OES) – this classification covers all EMS certifications. This data only covers paid positions (not volunteer). The chart below shows how Iowa EMT and paramedic wages compare to other states. Iowa is generally in the middle-of-the-pack nationwide, but ranks in the lower half when compared with its neighboring states. The maps and tables on the next two pages show how EMT and paramedic wages differ geographically within Iowa (p.4 by MSA and Balance of State Area, p.5 by IWD Region). The Des Moines -West Des Moines metro area has the highest median wages.



Data Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics (May 2013)

## Wages

### Median Hourly Wages of EMTs and Paramedics by MSA and Balance of State Area



### Hourly Wages of EMTs and Paramedics by MSA and Balance of State Area

Area	Mean Wage	Entry Wage	Experienced Wage	Median Wage
Statewide	\$ 16.00	\$ 10.50	\$ 18.74	\$ 15.39
Ames, IA Metro Area	*	*	*	*
Cedar Rapids, IA Metro Area	\$ 13.62	\$ 8.72	\$ 16.06	\$ 12.26
Davenport-Moline-Rock Island, IA-IL Metro Area	\$ 14.46	\$ 9.72	\$ 16.83	\$ 12.08
Des Moines-West Des Moines, IA Metro Area	\$ 18.55	\$ 13.42	\$ 21.11	\$ 17.98
Dubuque, IA Metro Area	\$ 11.86	\$ 8.66	\$ 13.46	\$ 10.84
Iowa City, IA Metro Area	\$ 17.73	\$ 14.01	\$ 19.59	\$ 17.05
Omaha-Council Bluffs, NE-IA Metro Area	*	*	*	*
Sioux City, IA-NE-SD Metro Area	\$ 15.55	\$ 12.16	\$ 17.24	\$ 14.47
Waterloo-Cedar Falls, IA Metro Area	\$ 16.36	\$ 12.19	\$ 18.44	\$ 16.22
Balance of State Northeast Iowa	\$ 14.63	\$ 10.81	\$ 16.54	\$ 13.92
Balance of State Northwest Iowa	\$ 17.27	\$ 10.12	\$ 20.85	\$ 15.08
Balance of State Southwest Iowa	\$ 15.74	\$ 11.15	\$ 18.04	\$ 14.87
Balance of State Southeast Iowa	\$ 14.87	\$ 9.17	\$ 17.72	\$ 14.57

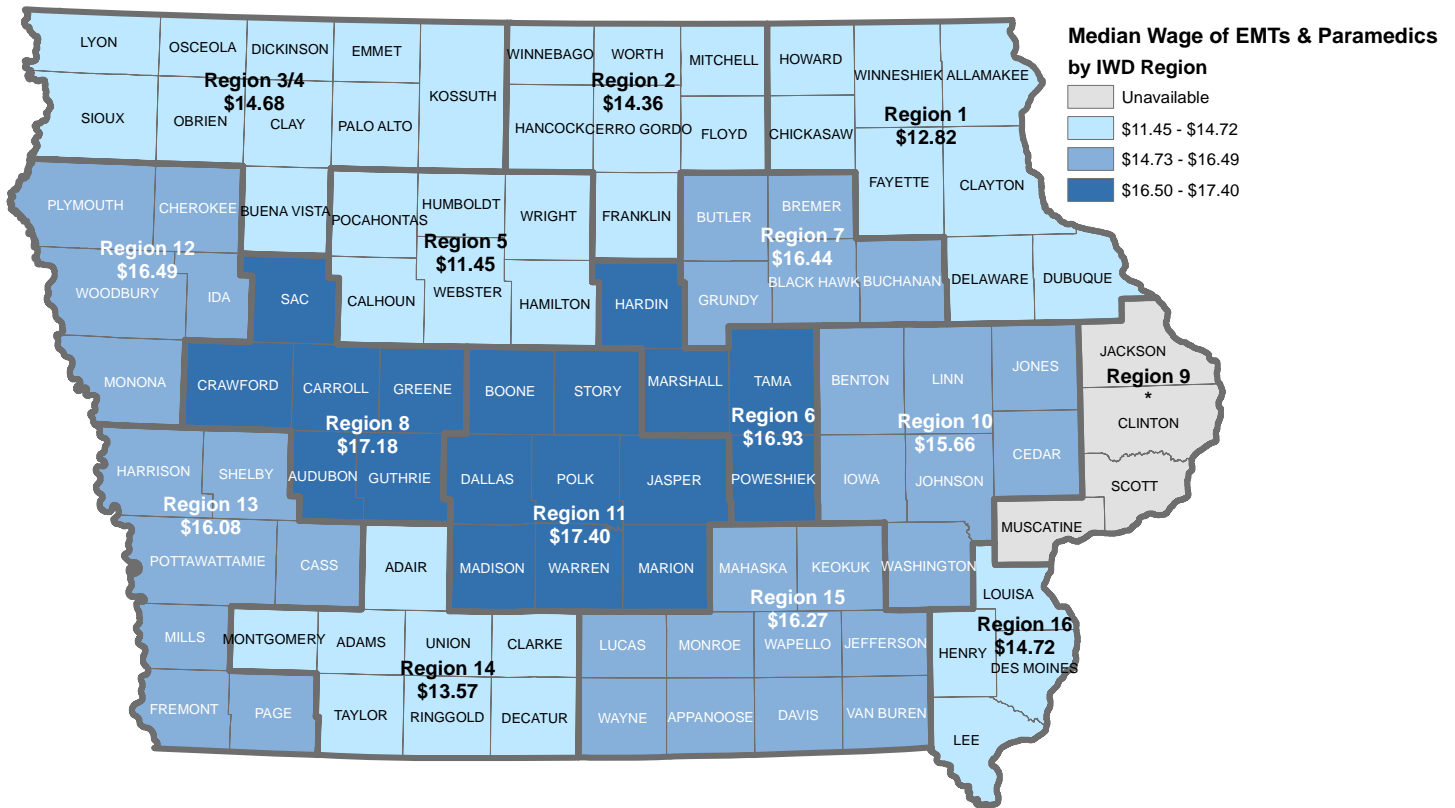
\*Wage data not available.

Data Source: May 2013 OES estimates. Iowa Wage data produced by the Labor Force & Occupational Analysis Bureau, Communications & Labor Market Information Division, Iowa Workforce Development.



## Wages

### Median Hourly Wages of EMTs and Paramedics by IWD Region



### Hourly Wages of EMTs and Paramedics by IWD Region

Region	Mean Wage	Entry Wage	Experienced Wage	Median Wage
Statewide	\$ 16.00	\$ 10.50	\$ 18.74	\$ 15.39
Region 1	\$ 13.24	\$ 9.83	\$ 14.94	\$ 12.82
Region 2	\$ 15.48	\$ 9.97	\$ 18.24	\$ 14.36
Region 3/4	\$ 15.69	\$ 9.98	\$ 18.54	\$ 14.68
Region 5	\$ 13.44	\$ 10.54	\$ 14.90	\$ 11.45
Region 6	\$ 16.95	\$ 12.48	\$ 19.18	\$ 16.93
Region 7	\$ 16.91	\$ 11.89	\$ 19.42	\$ 16.44
Region 8	\$ 17.68	\$ 11.68	\$ 20.68	\$ 17.18
Region 9	*	*	*	*
Region 10	\$ 15.70	\$ 10.61	\$ 18.24	\$ 15.66
Region 11	\$ 17.51	\$ 11.34	\$ 20.60	\$ 17.40
Region 12	\$ 19.24	\$ 12.14	\$ 22.78	\$ 16.49
Region 13	\$ 15.83	\$ 10.67	\$ 18.41	\$ 16.08
Region 14	\$ 14.66	\$ 11.28	\$ 16.34	\$ 13.57
Region 15	\$ 16.22	\$ 11.73	\$ 18.47	\$ 16.27
Region 16	\$ 15.48	\$ 8.72	\$ 18.85	\$ 14.72

\*Wage data not available.

Data Source: May 2013 OES estimates. Iowa Wage data produced by the Labor Force & Occupational Analysis Bureau, Communications & Labor Market Information Division, Iowa Workforce Development.

## Occupational Projections

Iowa Workforce Development's Labor Force & Occupational Analysis Bureau produces both long-term (10-year) and short-term (2-year) occupational projections that estimate how the number of employed will change over time by occupation. The table below has the 2012-2022 estimates for jobs classified under the emergency medical technicians and paramedics SOC (29-2041) – this classification covers all EMS certifications. This data only covers paid positions (not volunteer). Data is not available for every IWD region, but overall, Iowa EMT and paramedic employment is projected to grow 1.6 percent per year over the ten year period. The projections estimate that there will be 60 replacement job openings per year, as well.

**2012-2022 EMT & Paramedic Occupational Projections by IWD Region**

Region	Employment			Annual Job Openings		
	2012 Estimated	2022 Projected	Annual Growth Rate	New	Replace	Total
Statewide	2,245	2,605	1.6%	35	60	95
Region 1	265	310	1.7%	5	5	10
Region 9	170	210	2.6%	5	5	10
Region 10	260	305	1.7%	5	5	10
Region 11	455	520	1.3%	5	10	20

*Projections data only available for the above listed IWD regions.*

Data Source: 2012-2022 occupational projections estimates based on 2012 annual industry employment data and 2013 second quarter occupational staffing pattern data. Iowa projections data produced by the Labor Force & Occupational Analysis Bureau, Communications & Labor Market Information Division, Iowa Workforce Development.

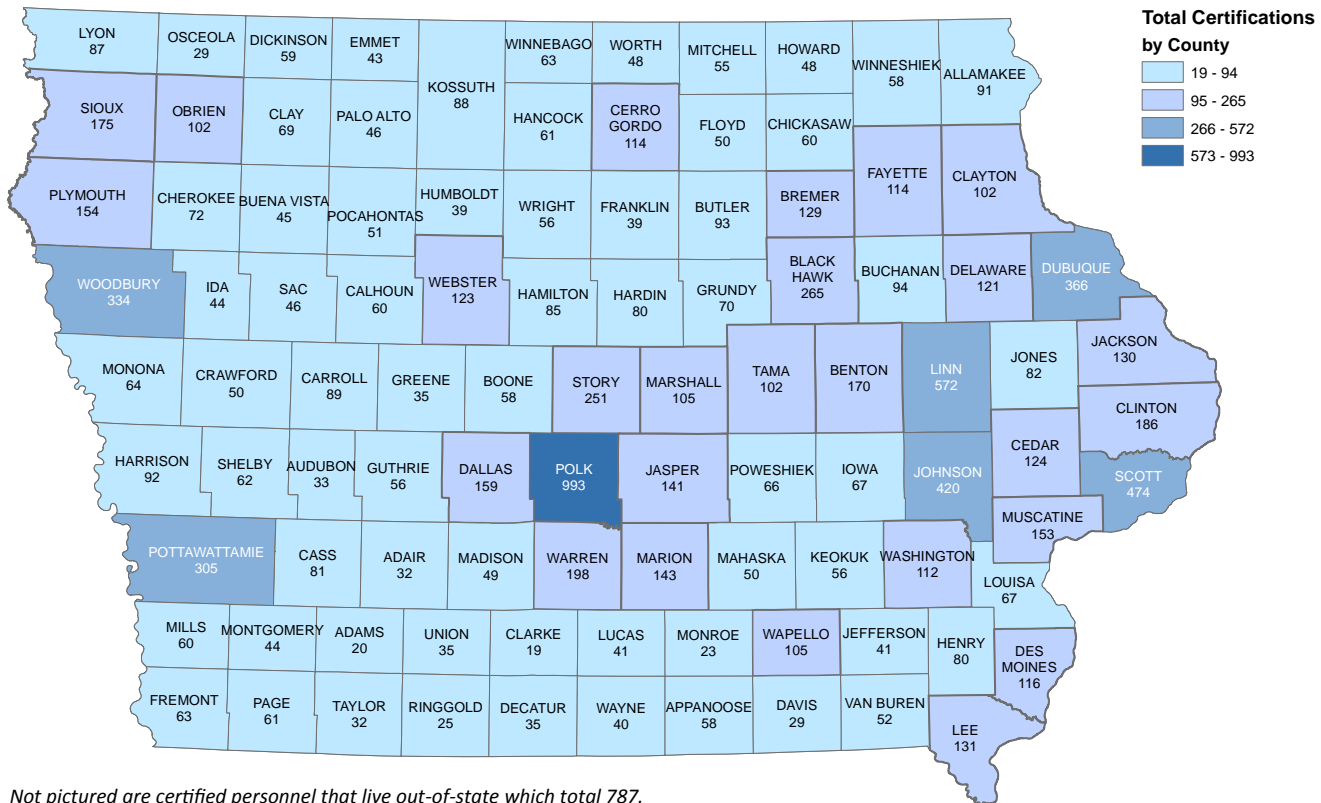
## Certification Analysis

The remainder of this report will utilize Iowa Department of Public Health emergency medical services certification data to describe the certified EMS personnel in the state from both a geographical and a demographic perspective. The geographic location represented for personnel is their residential location – not their work location. The data also represents all those with an active certification – not all certified personnel are actively working in the field. Pages 6-7 analyze the entire cohort, while pages 8-19 break them into groups defined by the type of certification held. Each section includes the following:

- Map of the number of certifications by county - this can be used to analyze where the highest concentrations of certifications in the state are located.
- Map of the number of certifications by county per 1,000 population - this can be used to analyze the ratio of EMS personnel to the general population and find potential weaknesses in staffing coverage.
- Map of median age of certified personnel by county - this can be used to analyze which areas of the state have an older demographic of EMS personnel and could be more heavily affected by retirements in the short - to medium-term future.
  - Age is calculated as of January 1, 2015
- Chart of the number of new certifications by year - this can be used to analyze the trend in new certifications over time (whether they're growing, shrinking or remaining steady).

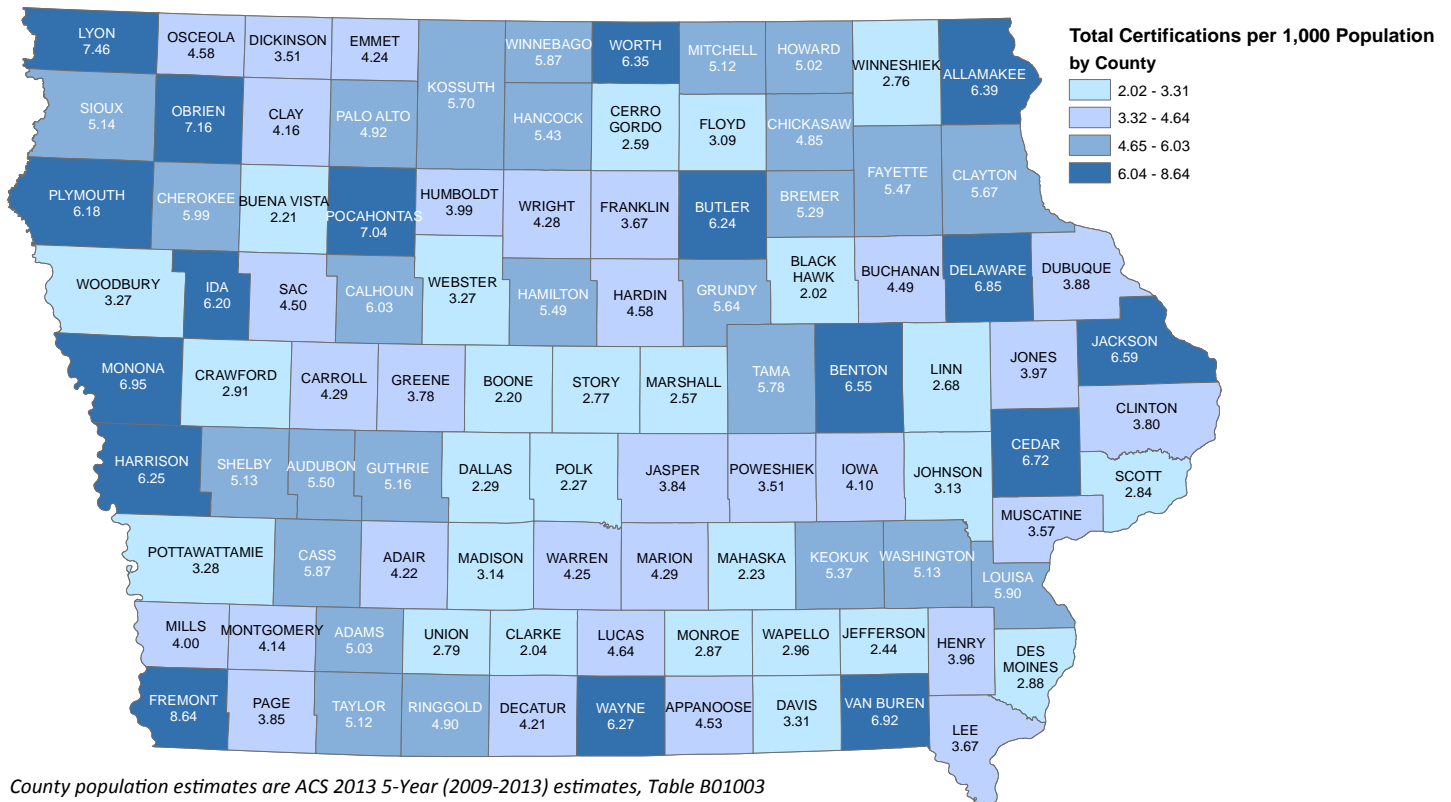
## Certification Analysis | Overall

### Total Active EMS Certifications by County



Not pictured are certified personnel that live out-of-state which total 787.

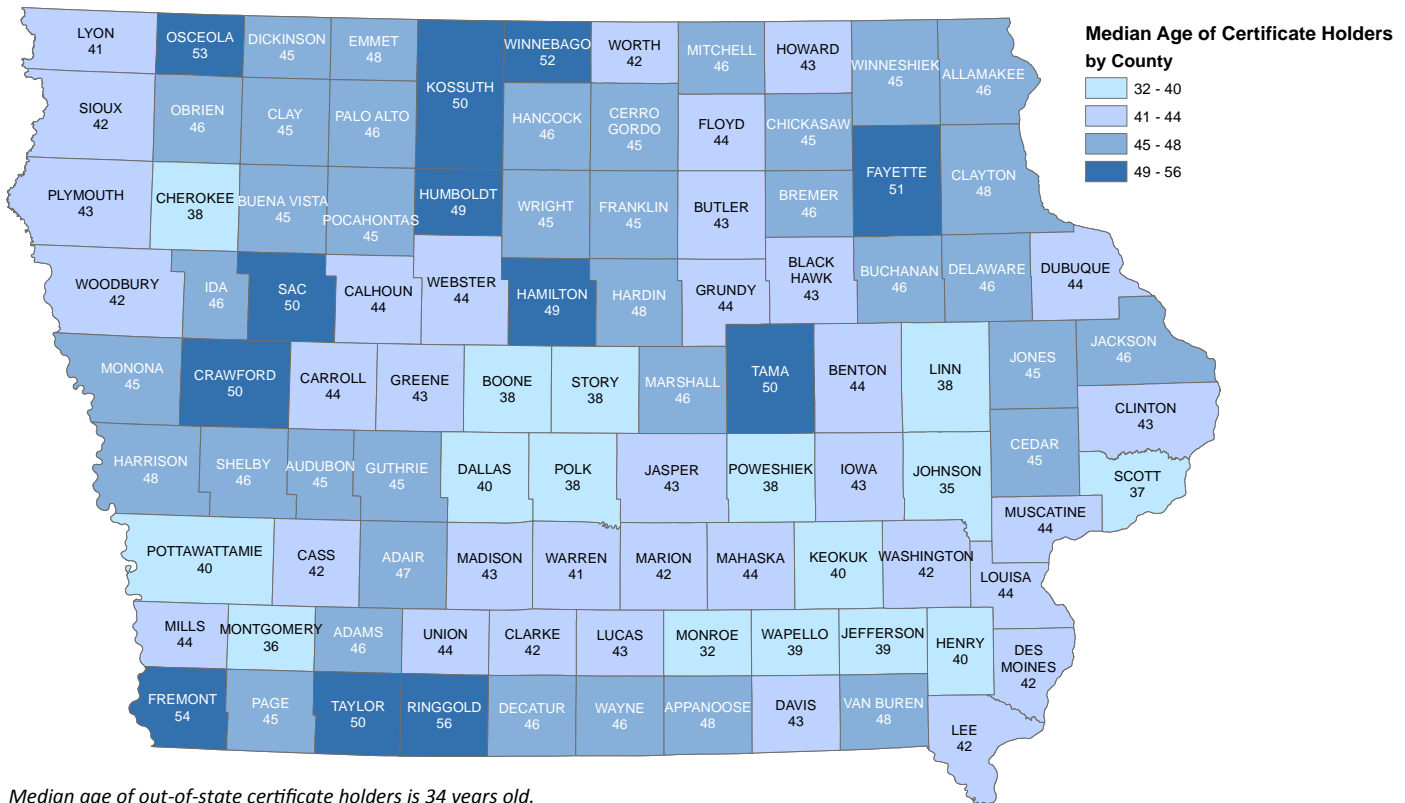
### Total Active EMS Certifications per 1,000 Population by County



County population estimates are ACS 2013 5-Year (2009-2013) estimates, Table B01003

## Certification Analysis | Overall

### Median Age of All Certified EMS Personnel by County

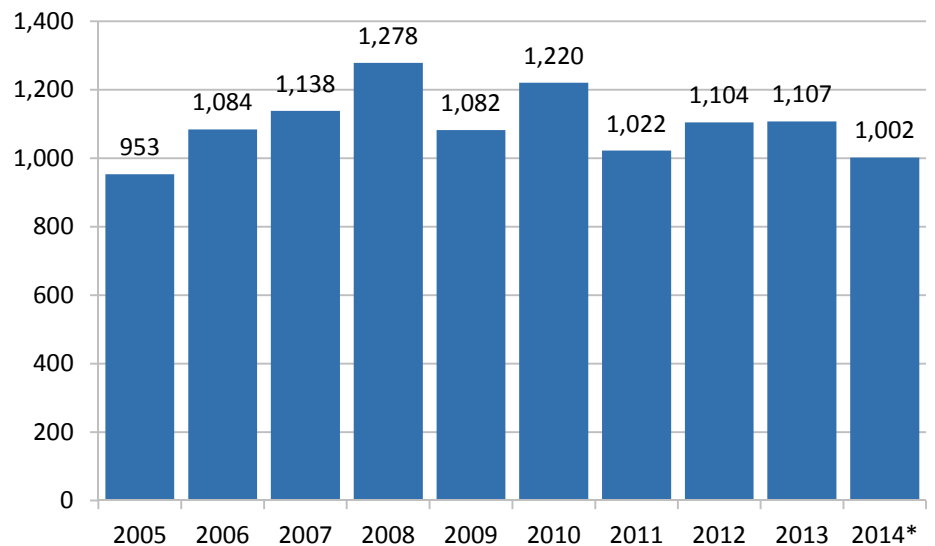


Median age of out-of-state certificate holders is 34 years old.

As of November 2014, there were 11,654 total active emergency medical services personnel certified in Iowa. This represents all those with an active certification – not all certified personnel are actively working in the field. The maps on the previous page show how those personnel are distributed around the state by their residential address (not their work address). The map on top shows the raw count of certifications, while the map on the bottom shows the number of certified personnel per 1,000 population in each county. Emergency medical services personnel are generally clustered around the state's metropolitan areas.

The map above shows the median age of each county's certified EMS personnel. Over one-fourth (28.1%) of those certified are over the age of 50 and could be close to retirement. North central, northwest and southwest Iowa are in position to be most heavily impacted by retirements in the coming decade.

### Total Newly Issued EMS Certifications by Year

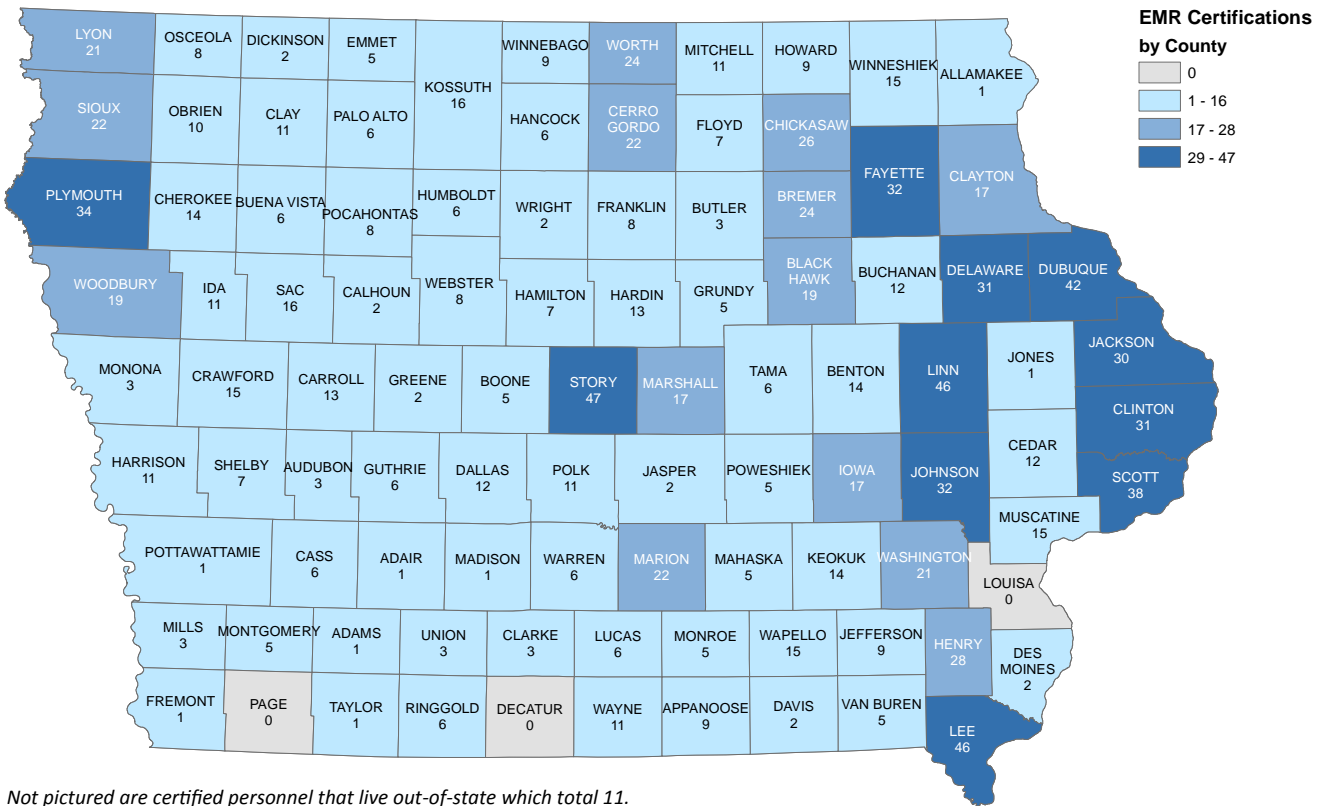


\*2014 count only includes certifications earned through October 24, 2014

The bar chart above shows the number of new EMS certifications issued by year. This could either be a person new to the field, or someone that earned a higher certification (i.e., became certified as a paramedic after previously being an EMT). New certifications have been fairly steady over the last five years.

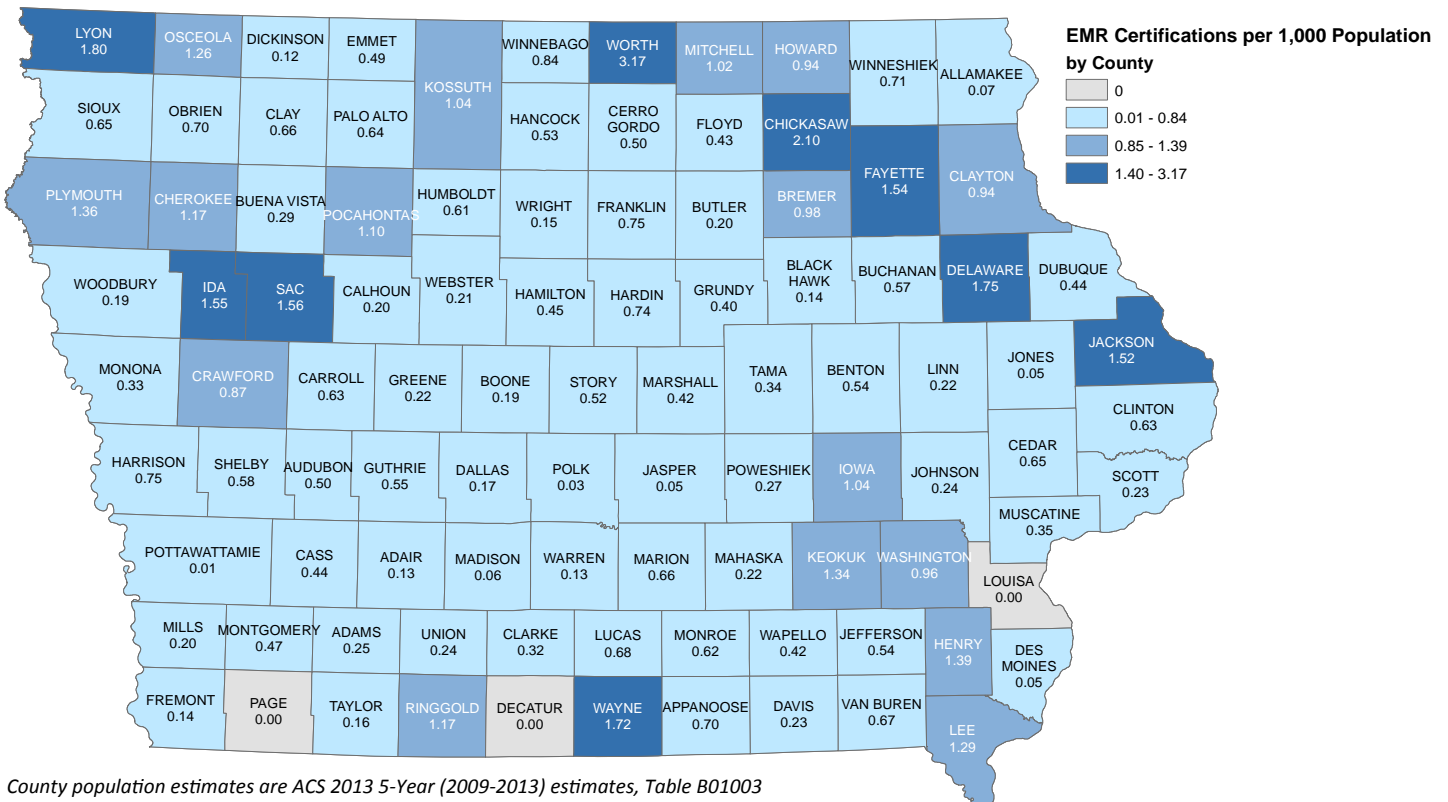
# Certification Analysis | Emergency Medical Responder

## EMR Certifications by County



Not pictured are certified personnel that live out-of-state which total 11.

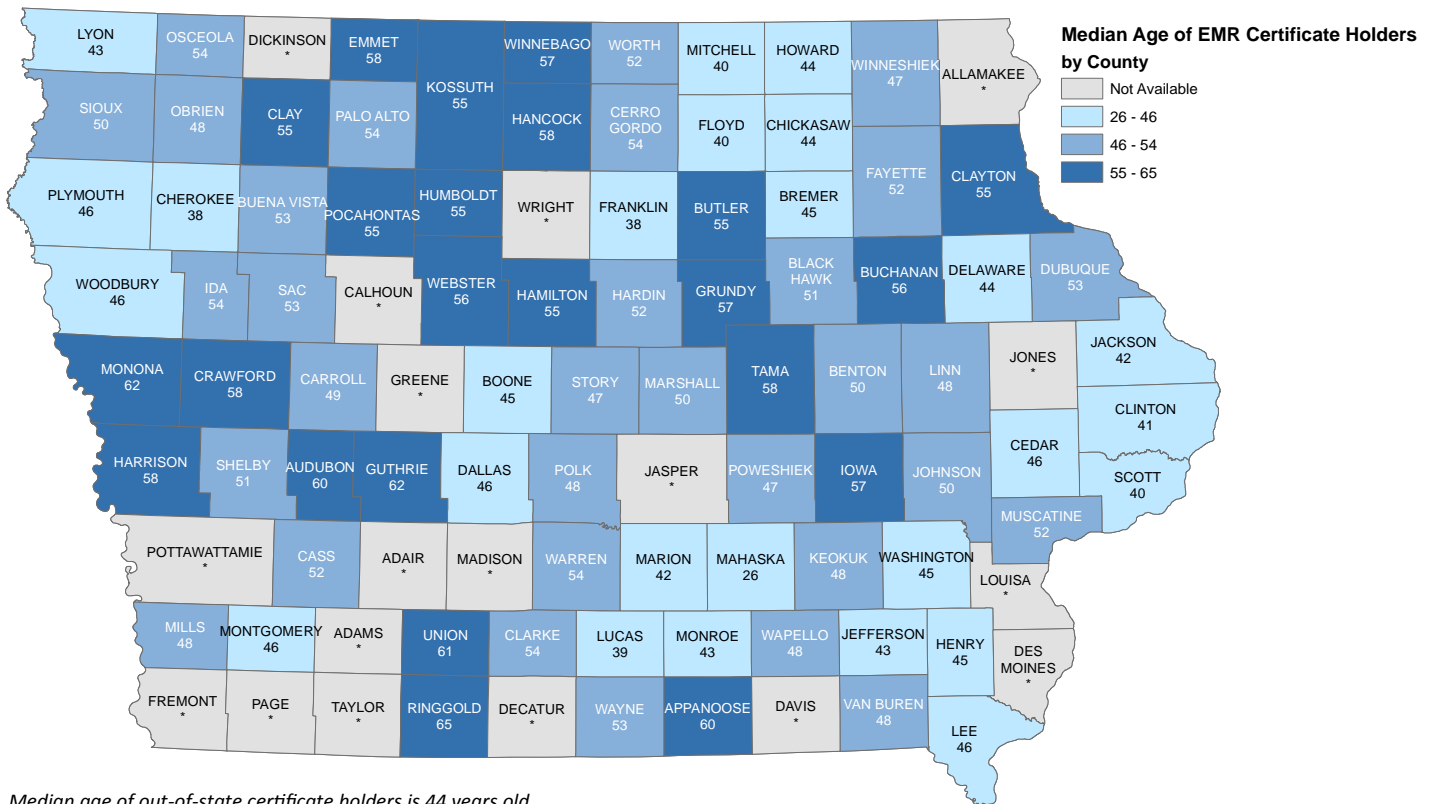
## EMR Certifications per 1,000 Population by County



County population estimates are ACS 2013 5-Year (2009-2013) estimates, Table B01003

## Certification Analysis | Emergency Medical Responder

**Median Age of EMR Certificate Holders by County**

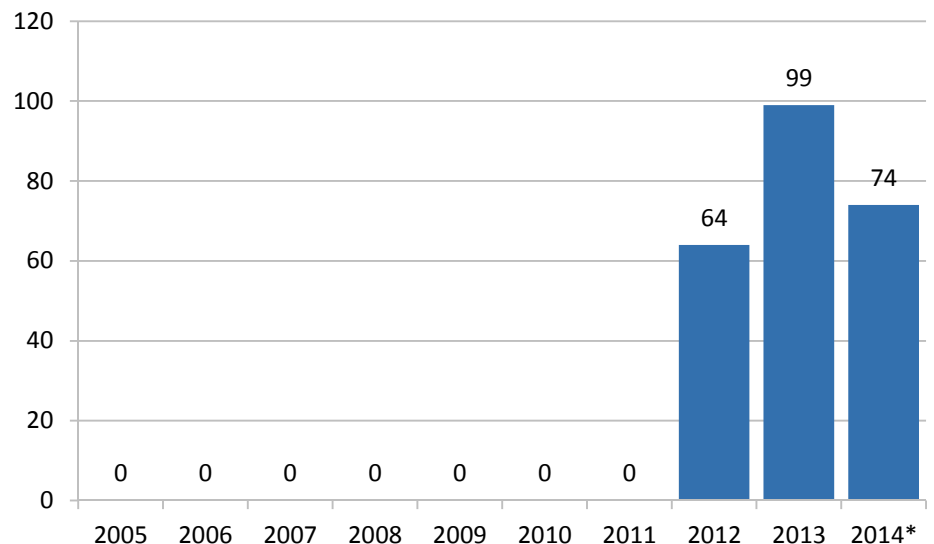


Median age of out-of-state certificate holders is 44 years old.

Median age not reported for counties with less than three certified personnel.

**Total Newly Issued EMR Certifications by Year**

As of November 2014, there were 1,220 active emergency medical responders (EMR) certified in Iowa. This represents all those with an active certification – not all certified personnel are actively working in the field. The maps on the previous page show how those personnel are distributed around the state by their residential address (not their work address). The map on top shows the raw count of certifications, while the map on the bottom shows the number of certified personnel per 1,000 population in each county. Emergency medical responders are most heavily clustered in eastern Iowa.



The map above shows the median age of each county's certified EMRs.

Nearly half (45.6%) of those certified are over the age of 50 and could be

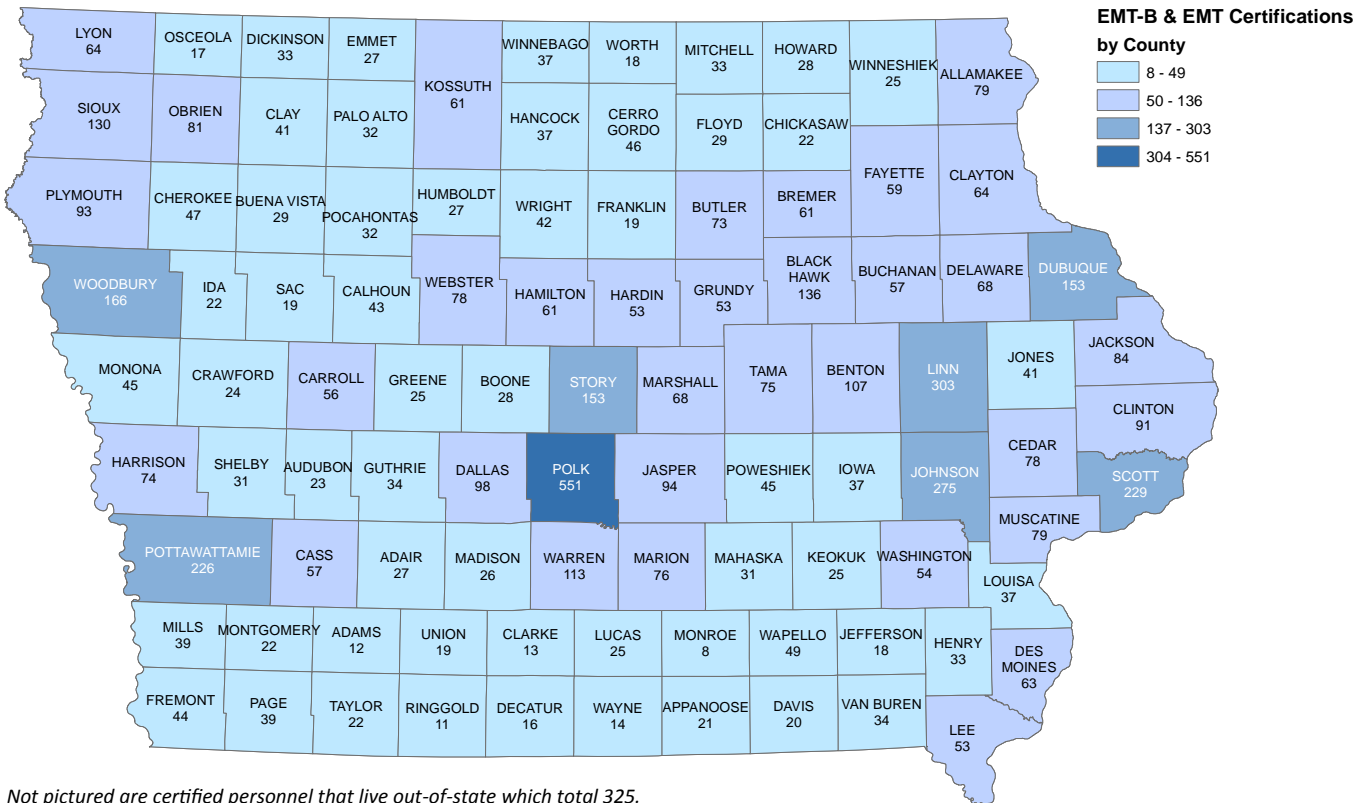
close to retirement. Western Iowa is in position to be most heavily impacted by retirements in the coming decade.

The bar chart above shows the number of new EMR certifications issued by year. This certification only started being issued in 2011, as Iowa is in the process of transitioning to the nationally identified scope of practice levels. The transition program is built for those that were previously certified as first responders to move to an EMR certification.

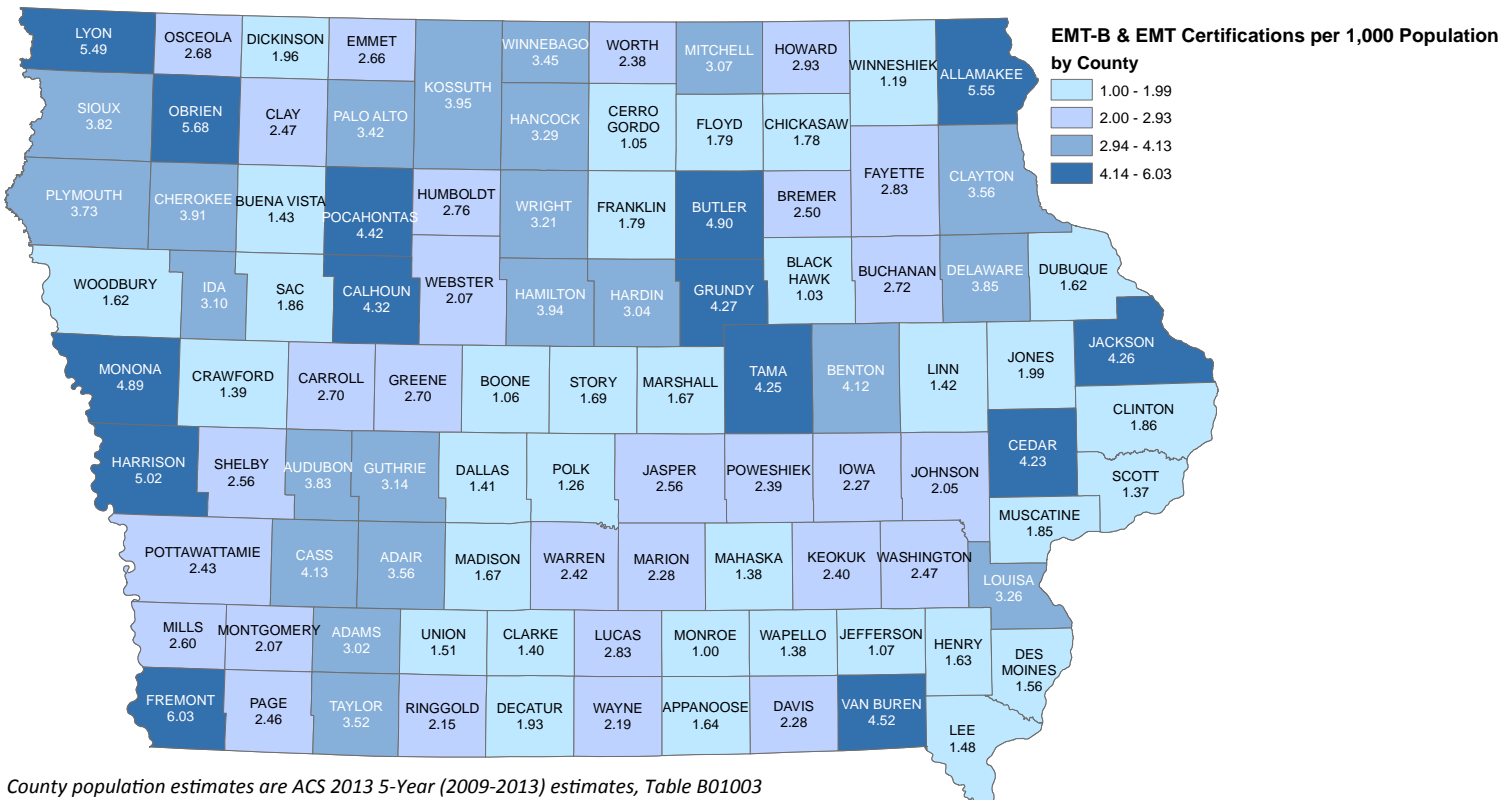


# Certification Analysis | Emergency Medical Technician

## EMT-B & EMT Certifications by County



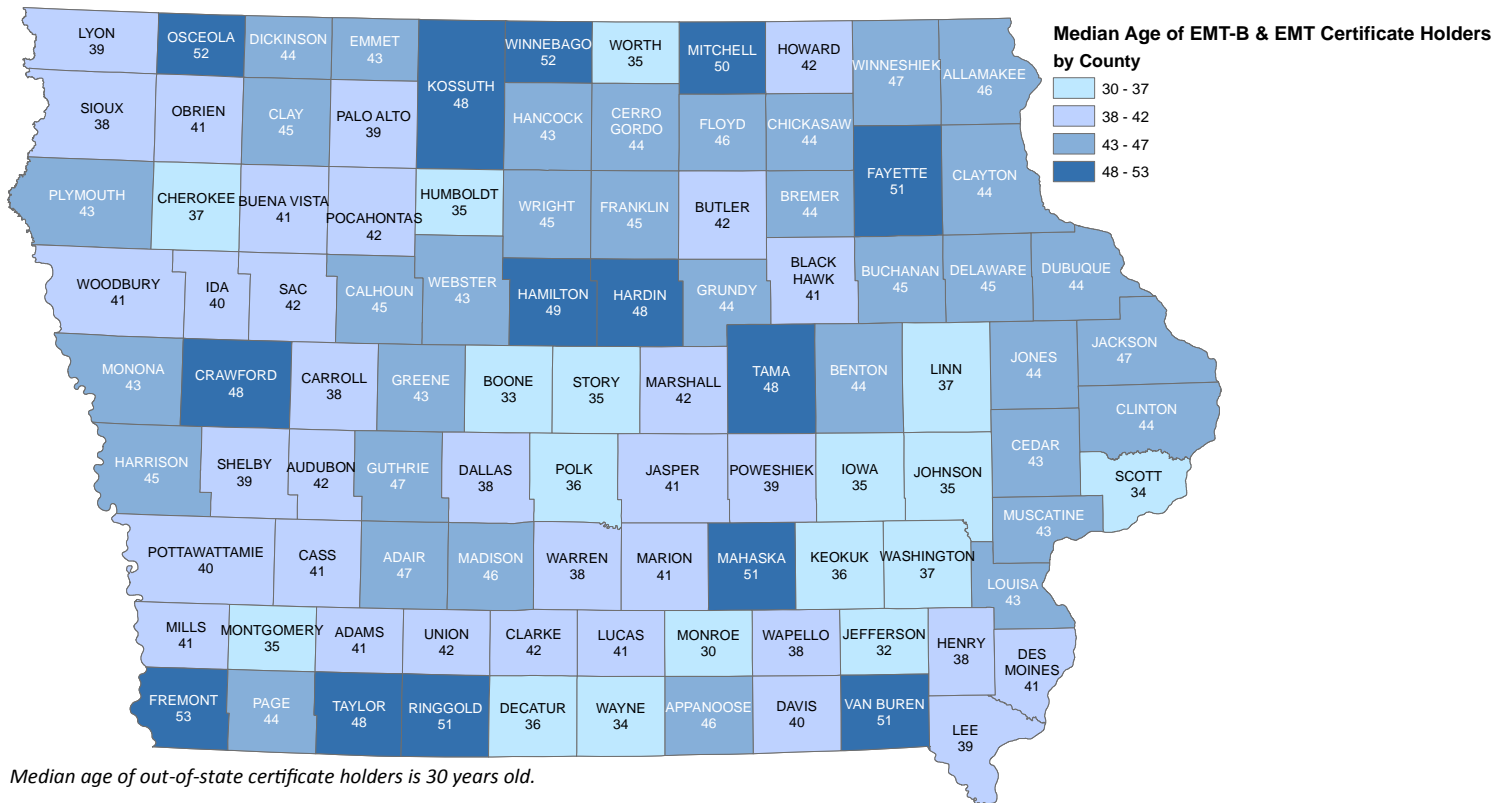
## EMT-B & EMT Certifications per 1,000 Population by County



County population estimates are ACS 2013 5-Year (2009-2013) estimates, Table B01003

## Certification Analysis | Emergency Medical Technician

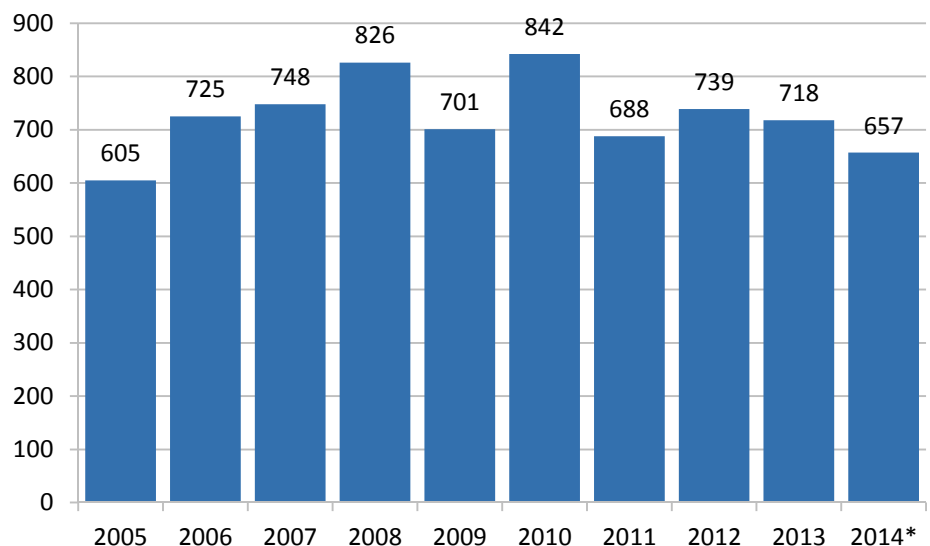
### Median Age of EMT-B & EMT Certificate Holders by County



As of November 2014, there were 6,615 active emergency medical technicians (EMT) certified in Iowa. This represents all those with an active certification – not all certified personnel are actively working in the field. The maps on the previous page show how those personnel are distributed around the state by their residential address (not their work address). The map on top shows the raw count of certifications, while the map on the bottom shows the number of certified personnel per 1,000 population in each county. Emergency medical technicians are generally clustered around the state's metropolitan areas.

The map above shows the median age of each county's certified EMTs. Over one-fourth (25.5%) of those certified are over the age of 50 and could be close to retirement. North central and southwest Iowa are in position to be most heavily impacted by retirements in the coming decade.

### Total Newly Issued EMT-B & EMT Certifications by Year



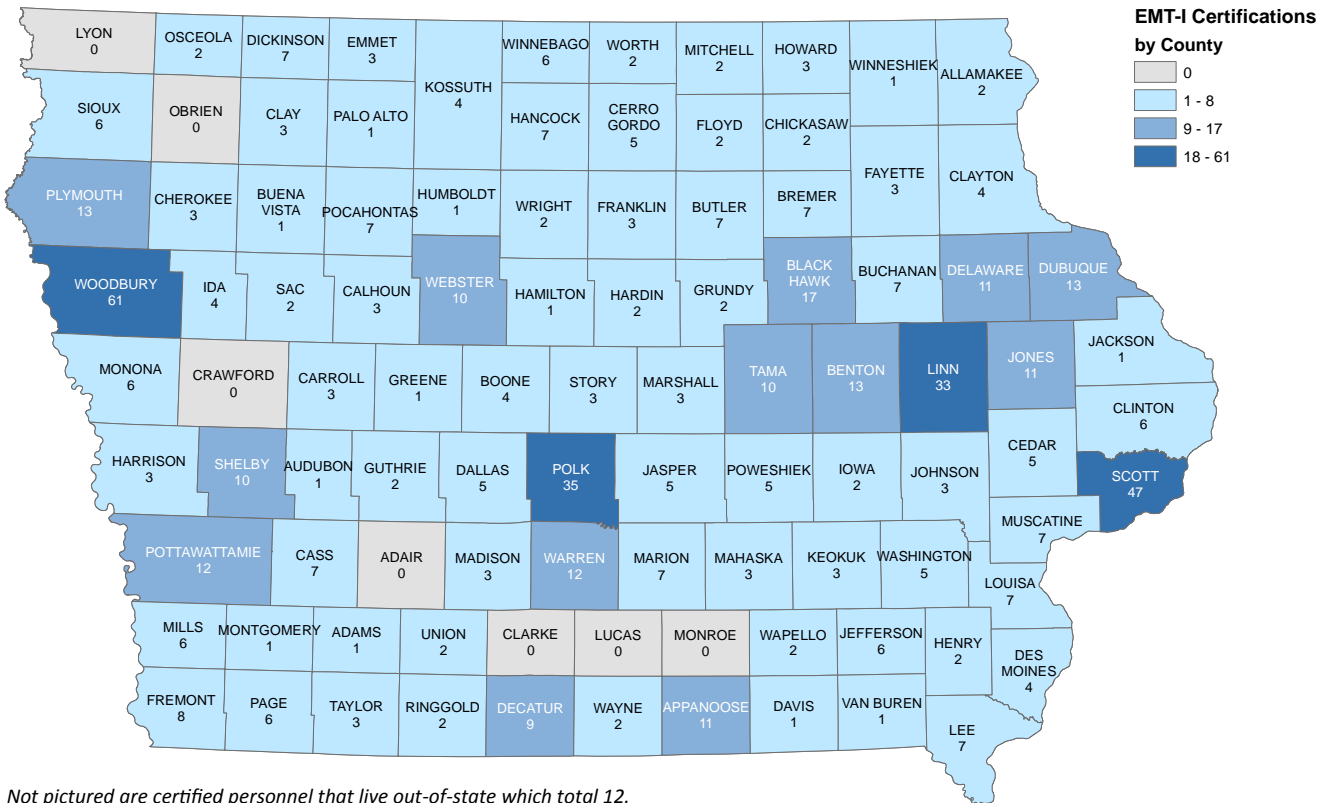
\*2014 count only includes certifications earned through October 24, 2014  
New EMTs that previously held an EMT-B certification are not counted above

The bar chart above shows the number of new EMT certifications issued by year. This could either be a person new to the field or state, or someone that earned a higher certification (i.e., became certified as an EMT after previously being an EMR). New certifications have been fairly steady over the last five years.



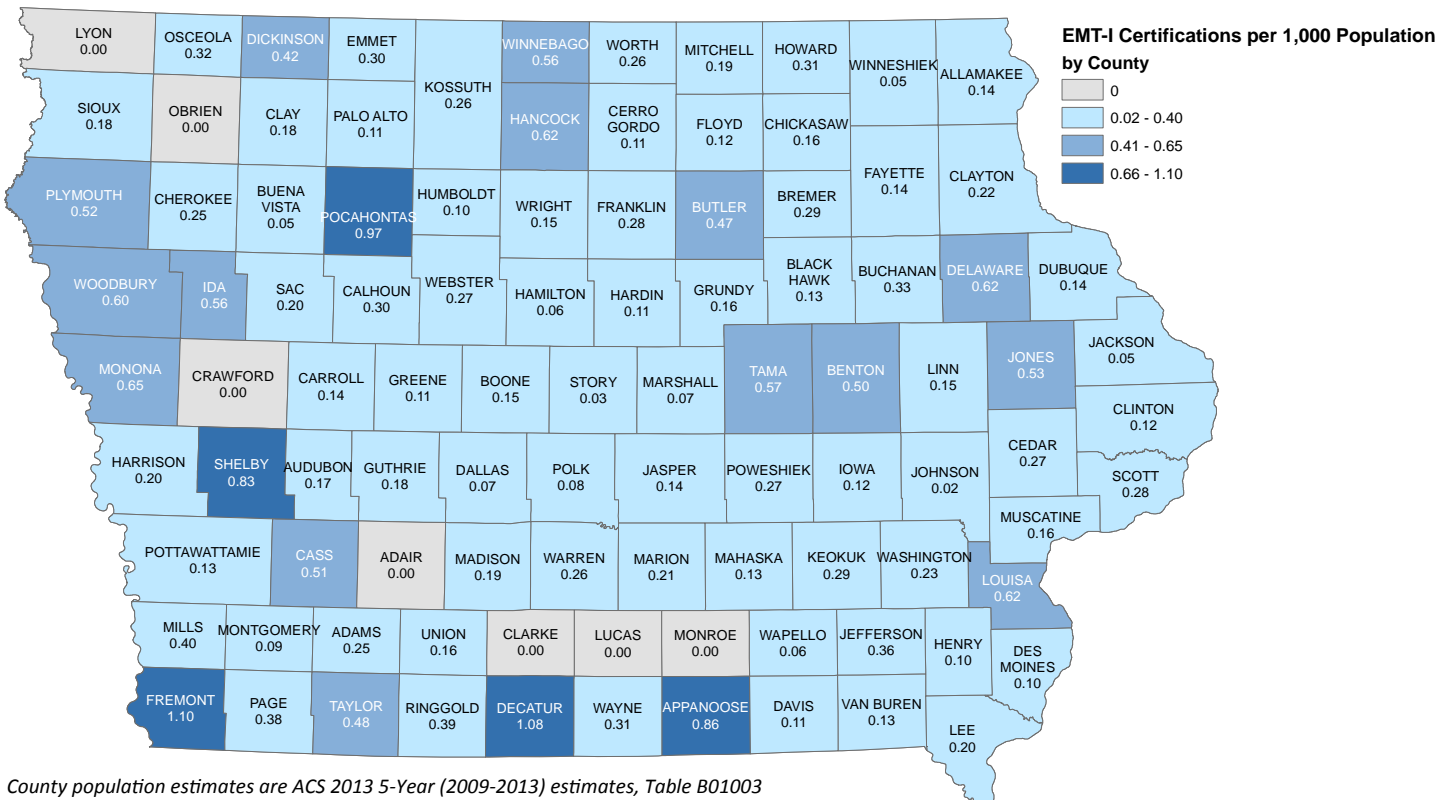
# Certification Analysis | Emergency Medical Technician - Intermediate

## EMT-I Certifications by County



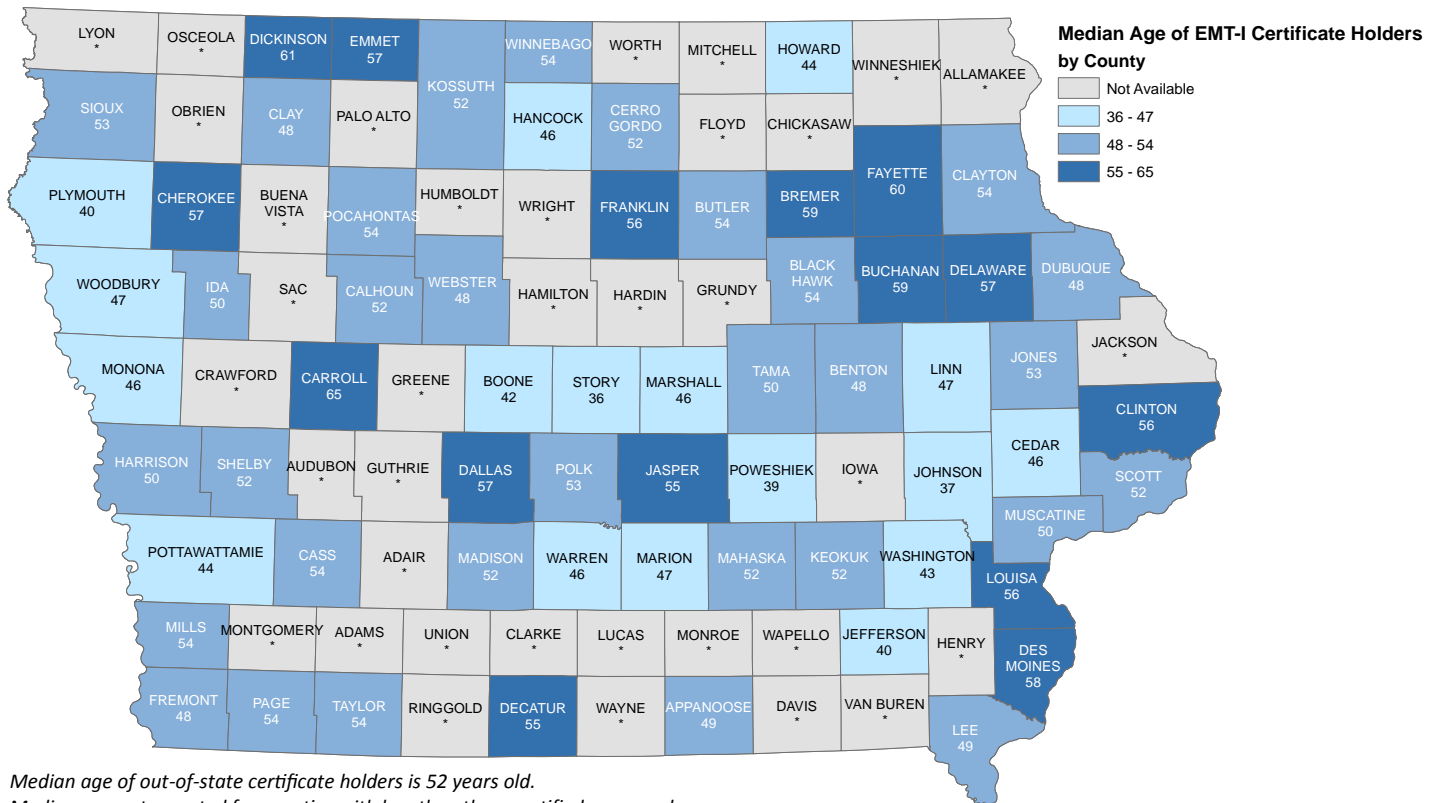
Not pictured are certified personnel that live out-of-state which total 12.

## EMT-I Certifications per 1,000 Population by County



County population estimates are ACS 2013 5-Year (2009-2013) estimates, Table B01003

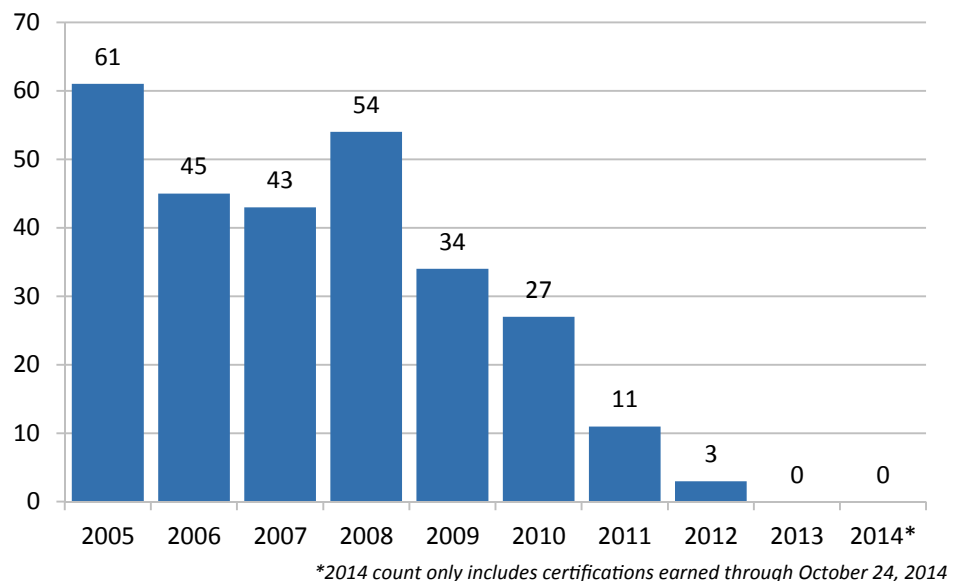
## Median Age of EMT-I Certificate Holders by County



As of November 2014, there were 611 active intermediate emergency medical technicians (EMT-I) certified in Iowa. This represents all those with an active certification – not all certified personnel are actively working in the field. The maps on the previous page show how those personnel are distributed around the state by their residential address (not their work address). The map on top shows the raw count of certifications, while the map on the bottom shows the number of certified personnel per 1,000 population in each county. Intermediate EMTs are generally clustered around the state's metropolitan areas.

The map above shows the median age of each county's certified EMT-I's. Slightly over half (51.9%) of those certified are over the age of 50 and could be close to retirement. Many parts of the state are in position to be heavily impacted by retirements in the coming decade.

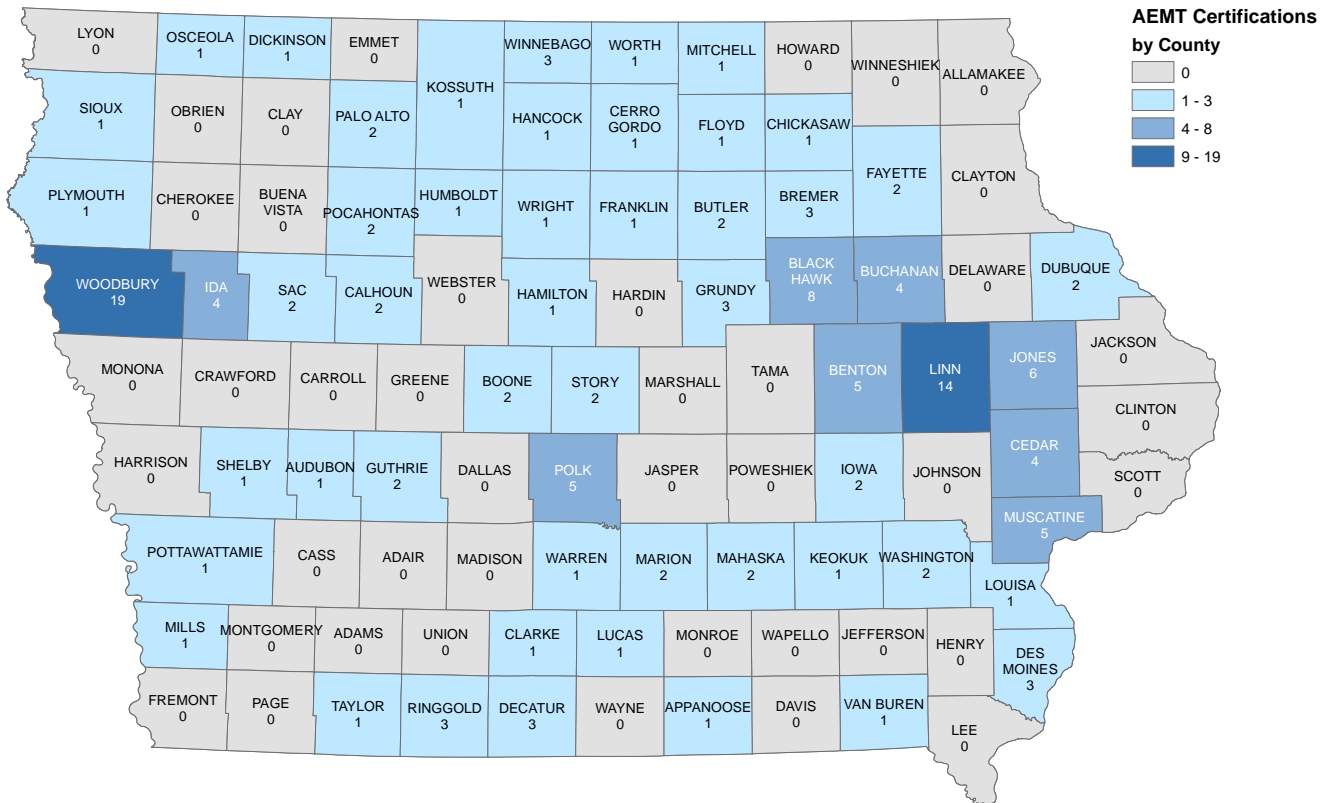
## Total Newly Issued EMT-I Certifications by Year



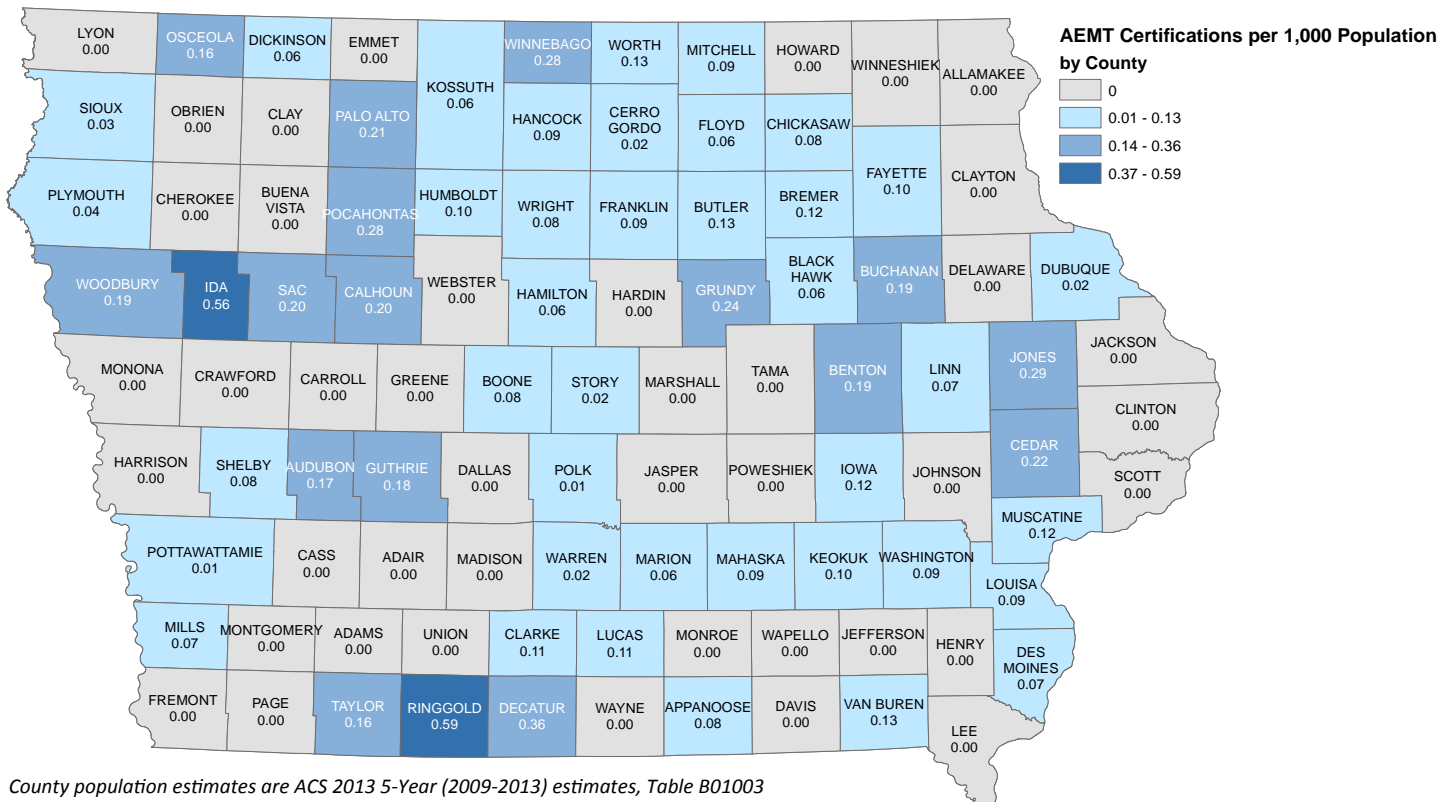
The bar chart above shows the number of new EMT-I certifications issued by year. This could either be a person new to the state, or someone that earned a higher certification (i.e., became certified as an EMT-I after previously being an EMT-B). The last EMT-I certification was issued in 2012, as Iowa is in the process of transitioning to the nationally identified scope of practice levels. The transition program is built for those that were previously certified as EMT-I's to move to an AEMT certification.

# Certification Analysis | Advanced Emergency Medical Technician

## AEMT Certifications by County

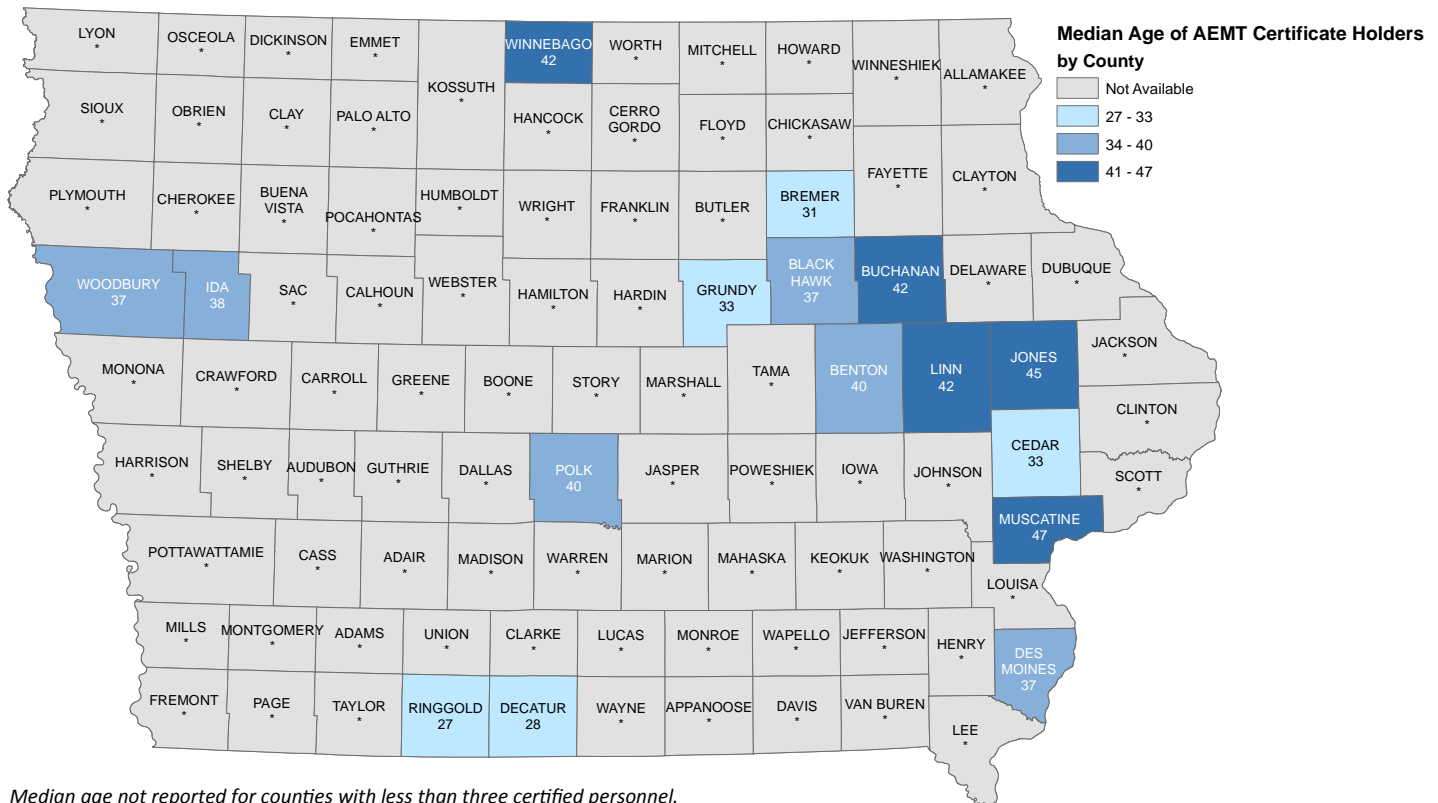


## AEMT Certifications per 1,000 Population by County



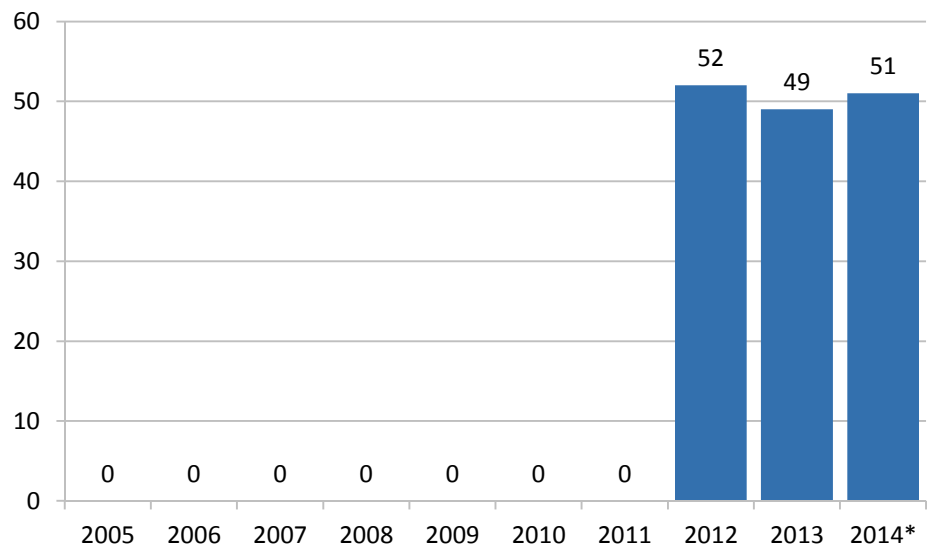
County population estimates are ACS 2013 5-Year (2009-2013) estimates, Table B01003

## Median Age of AEMT Certificate Holders by County



As of November 2014, there were 147 active advanced emergency medical technicians (AEMT) certified in Iowa. This represents all those with an active certification – not all certified personnel are actively working in the field. The maps on the previous page show how those personnel are distributed around the state by their residential address (not their work address). The map on top shows the raw count of certifications, while the map on the bottom shows the number of certified personnel per 1,000 population in each county. Advanced EMTs are most heavily clustered in the Cedar Rapids and Sioux City areas.

## Total Newly Issued AEMT Certifications by Year



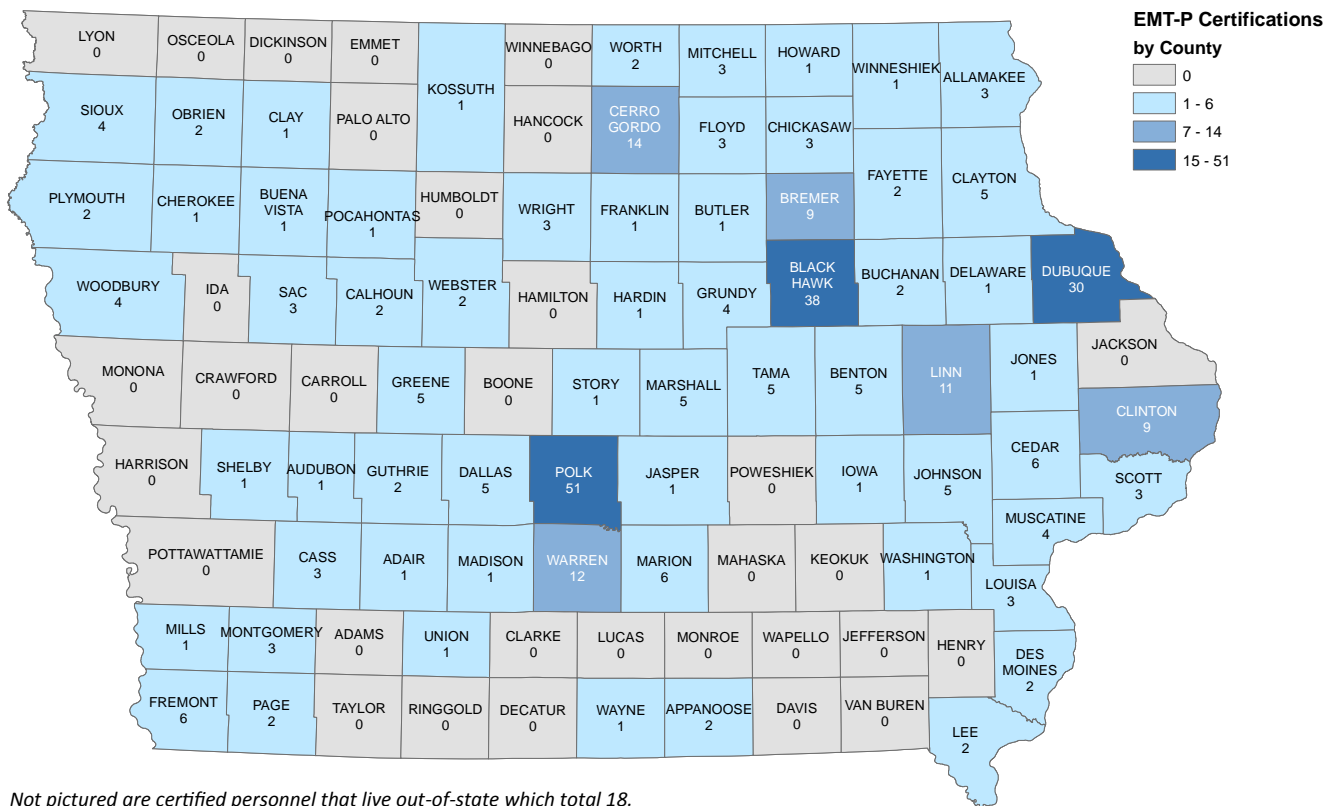
\*2014 count only includes certifications earned through October 24, 2014

The map above shows the median age of each county's certified AEMTs. Over one-fifth (21.8%) of those certified are over the age of 50 and could be close to retirement. Advanced EMTs are younger than other certifications in aggregate, and no area of the state is going to be heavily impacted by retirements in the short- to medium-term future.

The bar chart above shows the number of new AEMT certifications issued by year. This could either be a person new to the state, or someone that earned a higher certification (i.e., became certified as an AEMT after previously being an EMT). This certification only started being issued in 2011, as Iowa is in the process of transitioning to the nationally identified scope of practice levels. The transition program is built for those that were previously certified as EMT-Is to move to an AEMT certification.

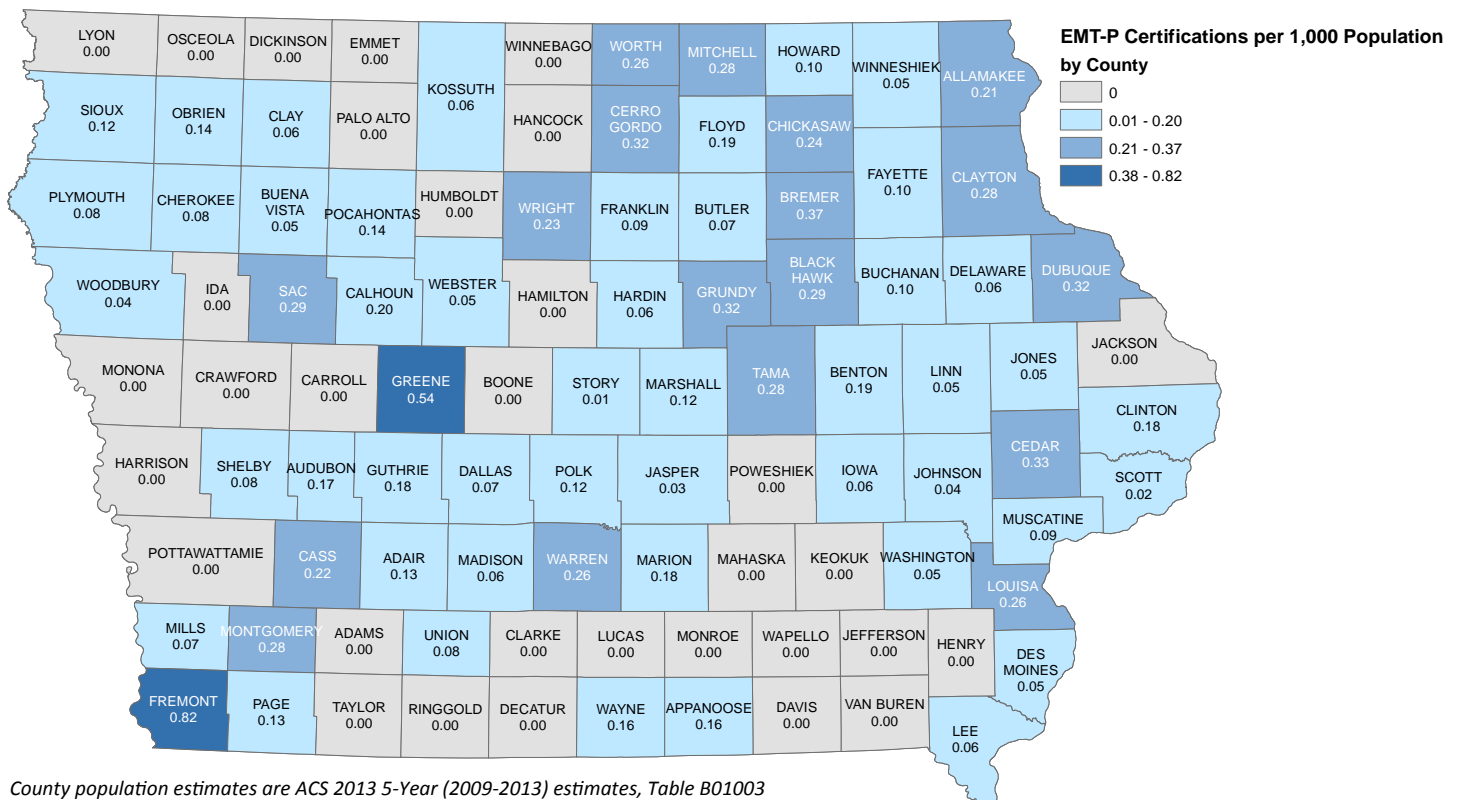
# Certification Analysis | Emergency Medical Technician - Paramedic

## EMT-P Certifications by County



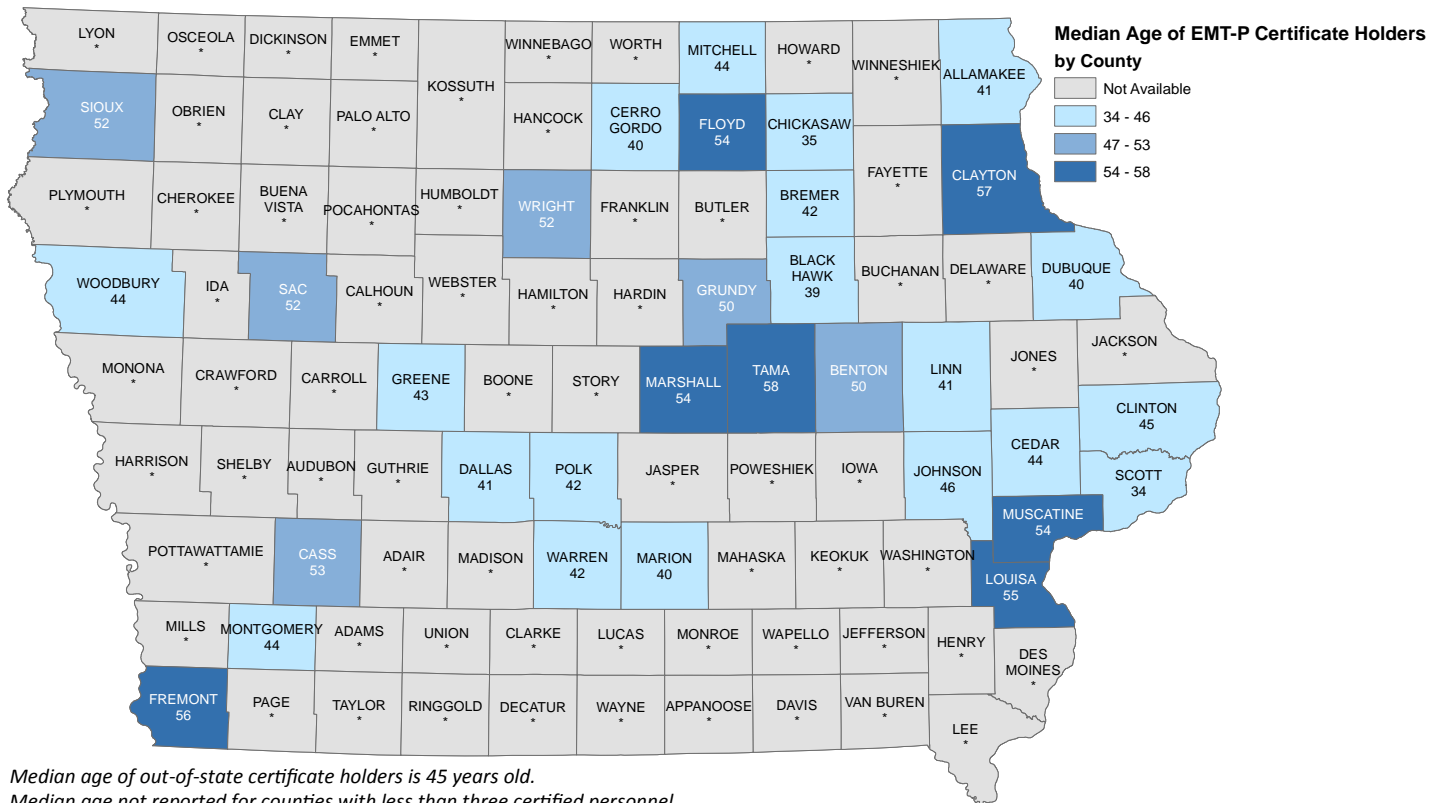
Not pictured are certified personnel that live out-of-state which total 18.

## EMT-P Certifications per 1,000 Population by County



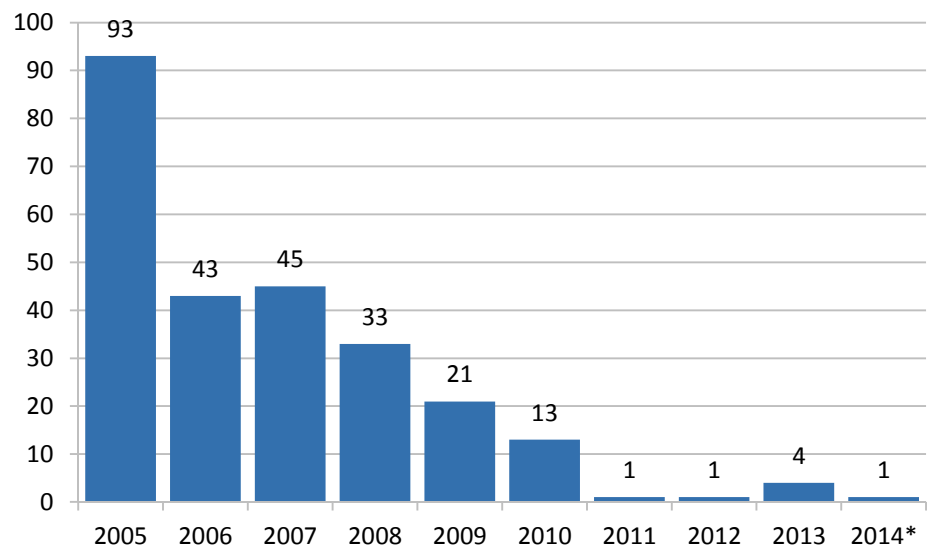
County population estimates are ACS 2013 5-Year (2009-2013) estimates, Table B01003

## Median Age of EMT-P Certificate Holders by County



As of November 2014, there were 338 active emergency medical technician - paramedics (EMT-P) certified in Iowa. This represents all those with an active certification – not all certified personnel are actively working in the field. The maps on the previous page show how those personnel are distributed around the state by their residential address (not their work address). The map on top shows the raw count of certifications, while the map on the bottom shows the number of certified personnel per 1,000 population in each county. Emergency medical technician paramedics are most heavily clustered around the Des Moines, Waterloo and Dubuque areas.

## Total Newly Issued EMT-P Certifications by Year



*\*2014 count only includes certifications earned through October 24, 2014*

The map above shows the median age of each county's certified EMT-Ps.

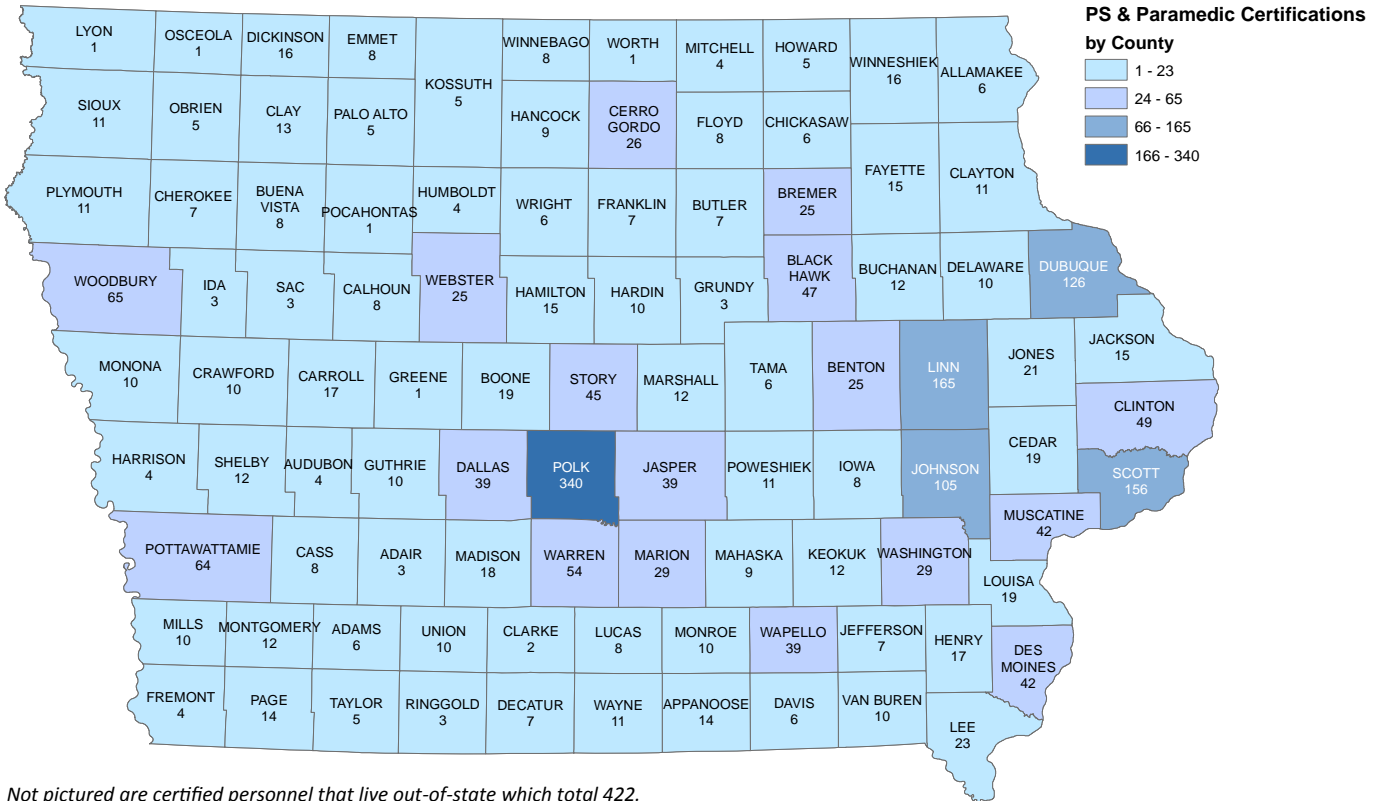
Over one-fourth (26.0%) of those certified are over the age of 50 and could be close to retirement. Several parts of the state are in position to be heavily impacted by retirements in the coming decade.

The bar chart above shows the number of new EMT-P certifications issued by year. This could either be a person new to the state, or someone that earned a higher certification (i.e., became certified as an EMT-P after previously being an EMT-B). There have been very few EMT-P certifications issued in Iowa in the last four years, as Iowa is in the process of transitioning to the nationally identified scope of practice levels. The transition program is built for those that were previously certified as EMT-Ps to move to a Paramedic certification.

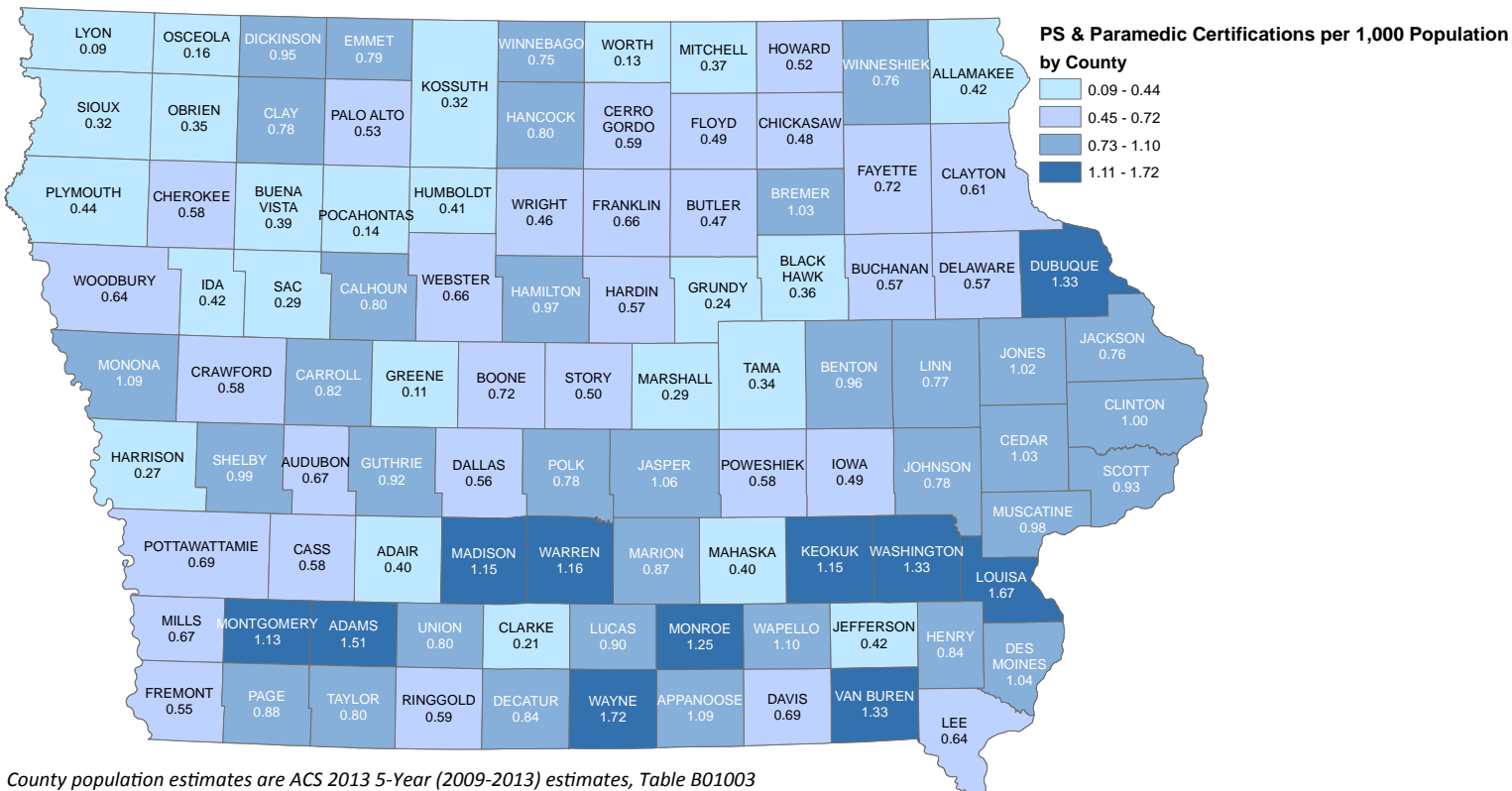


## Certification Analysis | Paramedic Specialist / Paramedic

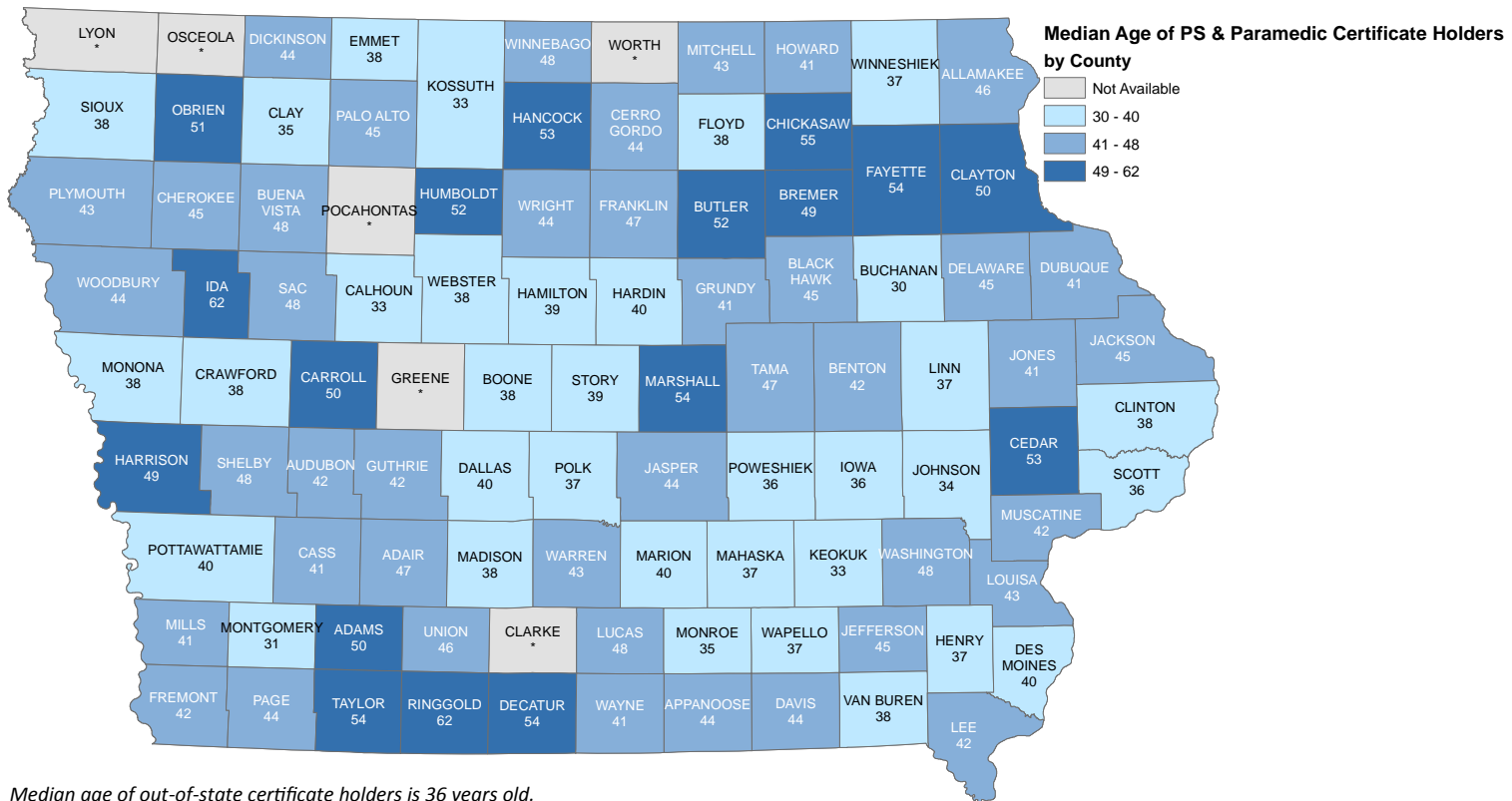
### PS & Paramedic Certifications by County



### PS & Paramedic Certifications per 1,000 Population by County



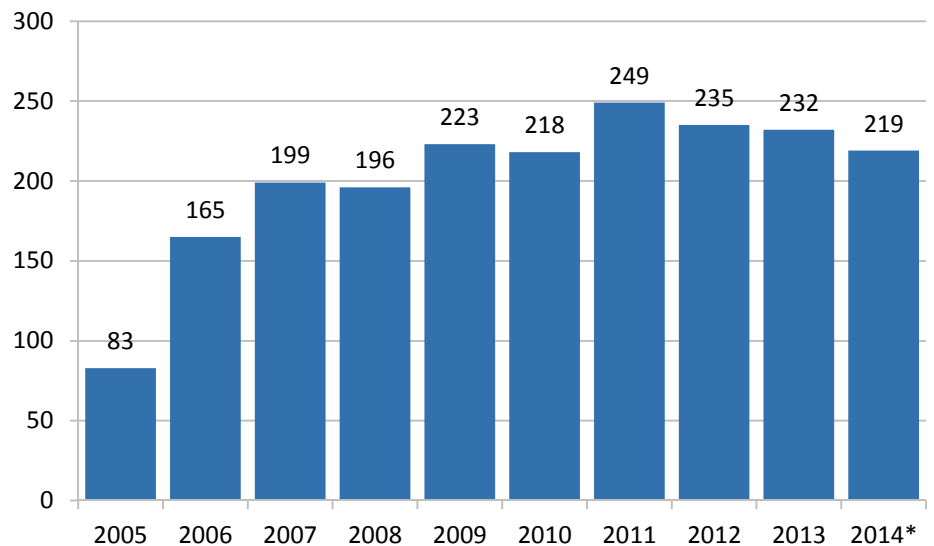
## Median Age of PS & Paramedic Certificate Holders by County



Median age of out-of-state certificate holders is 36 years old.  
Median age not reported for counties with less than three certified personnel.

## Total Newly Issued PS & Paramedic Certifications by Year

As of November 2014, there were 2,692 active paramedics certified in Iowa. This represents all those with an active certification – not all certified personnel are actively working in the field. The maps on the previous page show how those personnel are distributed around the state by their residential address (not their work address). The map on top shows the raw count of certifications, while the map on the bottom shows the number of certified personnel per 1,000 population in each county. Paramedics are most heavily clustered in the Des Moines area.



\*2014 count only includes certifications earned through October 24, 2014  
New paramedics that previously held a paramedic specialist certification are not counted above

The map above shows the median age of each county's certified paramedics. Over one-fifth (21.2%) of those certified are over the age of 50 and could be close to retirement. Northeast and southwest Iowa are in position to be most heavily impacted by retirements in the coming decade.

The bar chart above shows the number of new paramedic certifications issued by year. This could either be a person new to the state, or someone that earned a higher certification (i.e., became certified as a paramedic after previously being an EMT). New certifications have been fairly steady over the last five years.





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